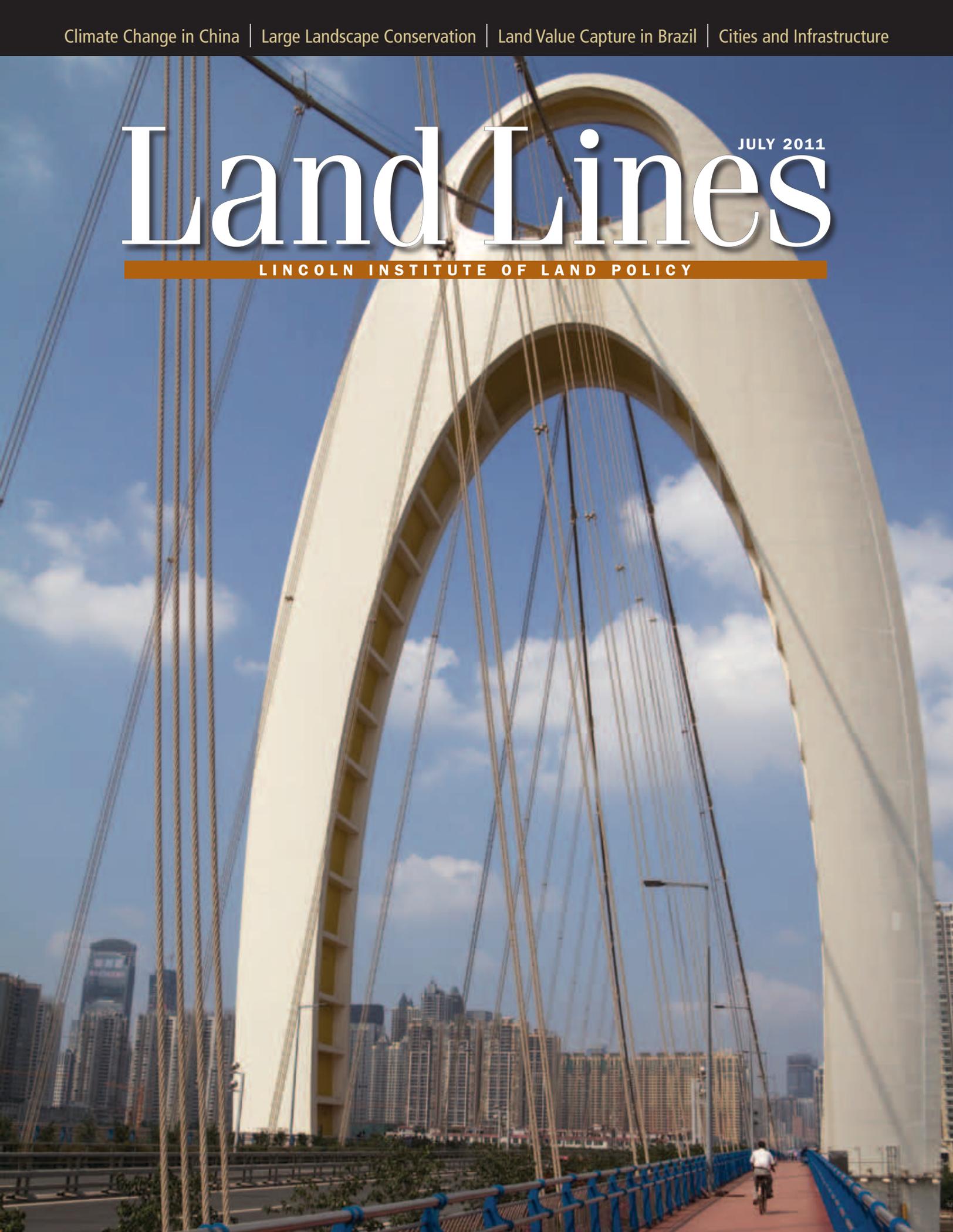


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Liede Bridge, Guangzhou (Canton),
Capital of Guangdong Province, China.
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Land Value Capture—Practice and Prospects

Land value capture is now a popular topic among practitioners of local public finance—in part because the recession-related decline in local government revenues has piqued interest in new revenue sources, and in part because of the need for new ways to finance local infrastructure that has been degraded by underinvestment. The Lincoln Institute's sixth annual land policy conference in May 2011 addressed many aspects of value capture, drawing on both international and domestic experience.



Gregory K. Ingram

Basics of Value Capture

Changes in the value of land often result from factors unrelated to the efforts of the landowner: actions by the community in the form of infrastructure investments; nearby growth in industrial, commercial, residential, or recreational activity; zoning that permits the owner to develop the land; or the incremental growth of the community. Value capture applies a tax or fee designed to return to the community some or all of the value added to land by community actions. Its application is particularly attractive when public investment—for roads, water supply, sanitation, or even local amenities such as street lights—increases property values.

International Experience

Land leasing. Perhaps the broadest and most comprehensive application of value capture is in China, where municipalities buy agricultural land from farmers at agricultural use prices, service it with infrastructure, and sell it to developers as urban land with permits for urbanization projects. The difference in price between the land's urban and agricultural values accrues to the municipality, provides a large share of local revenue, and pays for the installed infrastructure.

Co-development. Transit companies in Hong Kong and Tokyo have used revenues from the co-development of residential communities and commercial areas around new transit stations to help finance their costly projects. In Tokyo nonfare revenue is 30 to 50 percent of total revenue for some transit lines. In both cities ongoing revenue from property management is becoming more important than profits from development projects and provides a sustainable income stream.

Development taxation. Attempts to tax betterment values in the United Kingdom began in 1909, but implementation was impeded by valuation and other challenges. Direct betterment levies were replaced by contracts with local authorities under which developers contribute to infrastructure and service provision, affordable housing, and other planning obligations. These contracts are evolving into community infrastructure levies, a betterment

levy by alternative means. Following a different historic path, France also has a local infrastructure tax on new development.

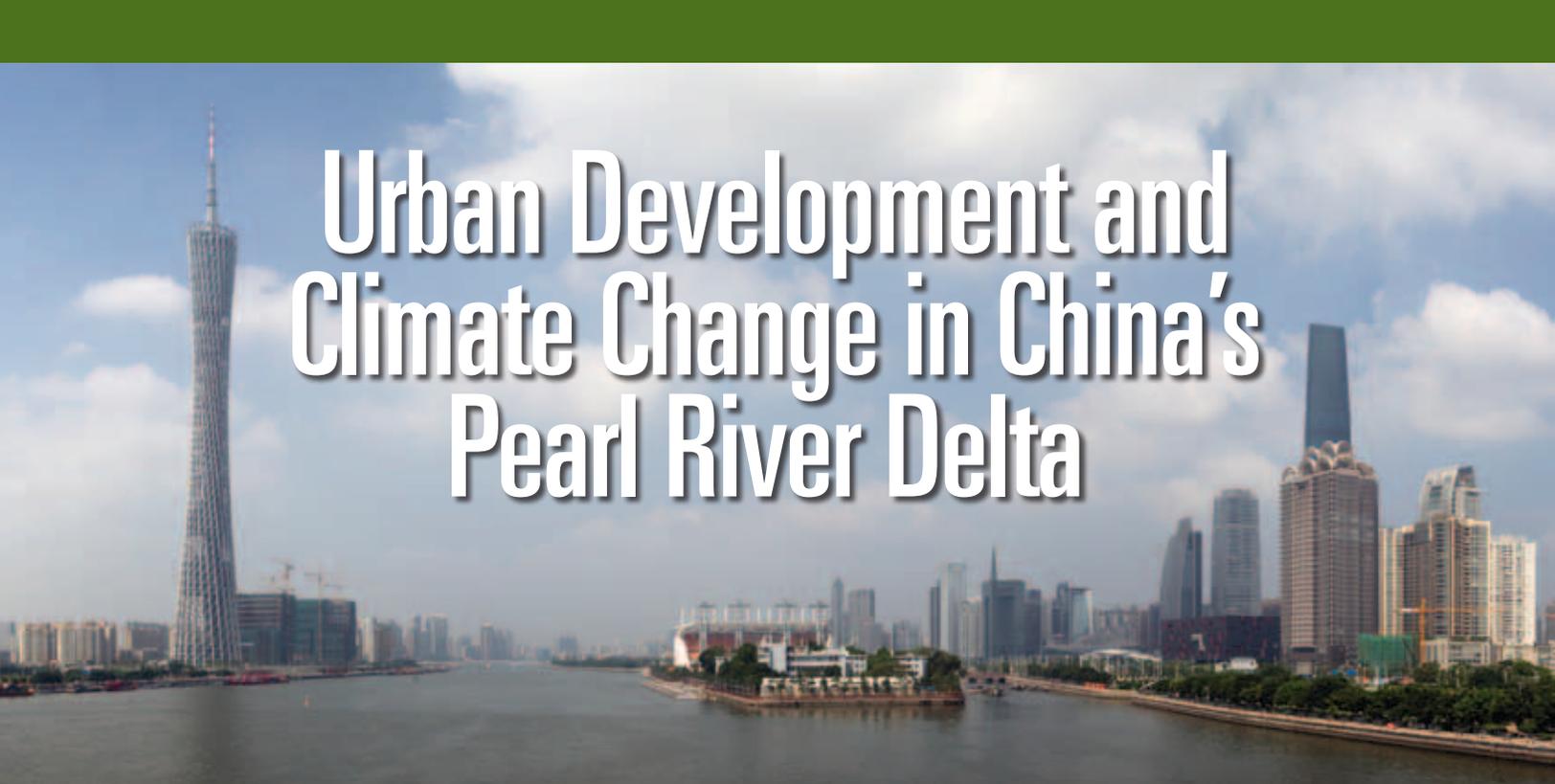
Land pooling. India has experimented with land pooling in its implementation of new town planning schemes that replace the old master plans. The practice encourages owners of undeveloped or haphazardly developed land to pool their plots together and then receive a serviced parcel or constructed space when the development is completed. Ahmedabad's approach uses 15 percent of the land for roads, 10 percent for parks, 15 percent for auction to others, and 60 percent for the pool members.

United States Experience

Among the specific U.S. policies that embody value capture are special assessment areas that often include betterment charges. For example, Community Facilities (or Mello-Roos) Districts apply fees paid by residents to retire bonds sold to finance developmental infrastructure. Business Improvement Districts and Tax Increment Finance schemes use earmarked tax or fee revenue from a designated area to fund improvements. Privately negotiated Community Benefit Agreements obligate developers to provide community facilities or economic benefits for local residents. Citywide development and impact fees used to finance infrastructure and related development investments are normally cost-based, but succeed only when the betterment value exceeds the cost.

Most notable about the U.S. experience is that the terms—betterment levies or value capture—are used rarely, even though their principles are practiced widely. Moreover, this country can learn some new value capture approaches from international experience.

The conference volume with papers and commentaries by more than 25 contributors will be published in May 2012.



Urban Development and Climate Change in China's Pearl River Delta

© iStockphoto/PuiYuen Ng

Canfei He with Lei Yang

Cities are both contributors to and victims of global climate change. Delta cities, in particular, have long been recognized as being extremely vulnerable because they are located where the stresses on natural systems coincide with intense human activity.

A number of climate change impacts may affect delta cities, including rising sea levels, infrastructure damage from extreme weather events, the public health implications of higher average temperatures, altered energy consumption patterns, stress on water resources, impacts on tourism and cultural heritage, decreased urban biodiversity, and ancillary effects on air pollution (IPCC 2007). Climate change also may affect physical assets used for economic production and services, as well as the costs of raw materials and inputs, which in turn will affect competitiveness, economic performance, and employment patterns.

China's remarkable economic growth since the beginning of the country's reform period in 1978 has concentrated a large share of population and wealth along the coast, especially in three megacity regions: Pearl River Delta, Yangtze River Delta, and Capital Region. While the potential implications of climate change pose a challenge for coastal communities around the world, this geographic concentration of population and economic activity seems disproportionate in China.

Among China's coastal and delta regions, the Pearl River Delta (PRD) in Guangdong province is an important economic center that includes the cities of Guangzhou, Shenzhen, and seven prefecture-level municipalities. Together with Hong Kong and Macao, the greater PRD area is one of the key megacity regions in the world, but its geography makes it highly vulnerable to sea level rise. Unprecedented economic and urban development, along with the major changes in land use and land cover accompanying that development over the past three decades, has released large emissions of CO₂, leading to higher temperatures and more intensive and extreme weather events (Tracy, Trumbull, and Loh 2006). Given the importance of this region to both China and the broader global economy, we take a closer look at the PRD's contribution to and risks from climate change.

Industrialization and Urbanization

With the establishment of the Shenzhen and Zhuhai Special Economic Zone in 1980, the PRD was among the earliest regions in China to begin to liberalize its economy. Its institutional advantages, combined with its proximity to Hong Kong and Macao, made the PRD the fastest growing region in the world during the past three decades. From 1979 to 2008, the PRD's GDP grew at 15.6 percent annually in constant prices, outpacing both the national rate of 9.77 percent and the provincial rate of 13.8 percent.

As a result, the delta's contribution to the share of GDP in China soared from 2.8 percent in 1979 to 9.5 percent in 2008. In terms of total fixed investment, foreign direct investment, exports, and energy consumption, the PRD was one of the most important and dynamic economic regions in China during this period (figure 1).

This rapid development resulted from the dual process of industrialization and urbanization. The region's secondary and tertiary industries have grown rapidly as primary industry has gradually decreased in relative economic importance, with its contribution to GDP declining from 26.9 percent in 1979 to 2.4 percent in 2008, while the tertiary service sector grew from 27.9 percent to 47.3 percent.

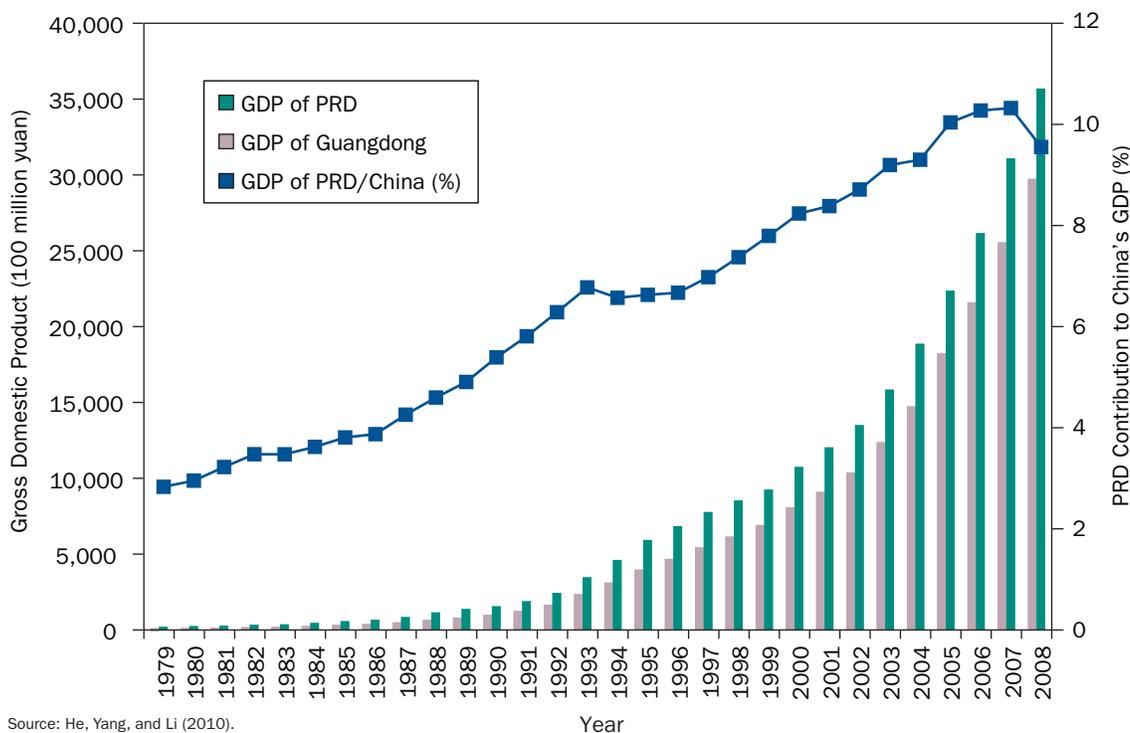
Over the same time, the population increased from 17.97 to 47.71 million residents, reaching an urbanization rate of 82.2 percent in 2008. In terms of land use, areas designated for manufacturing, residential, and commercial uses grew by 8.47 percent annually, increasing from 1,068.7 square kilometers (k²) in 1979 to 4,617.16 k² in 2008 (figure 2).

Climate Changes

Given these dramatic land use changes and the region's increased emissions of greenhouse gases, it is not surprising that the PRD has experienced noticeable regional climate changes. The Guangdong Meteorological Administration (2007) reported that the average temperature increase in Guangdong province over the past five decades has been 0.21 °C every 10 years, which is similar to the rate of warming seen nationally in China. Guangdong's coastal region, especially the highly urbanized PRD, witnessed even greater temperature increases, averaging 0.3 °C every 10 years. The cities of Shenzhen, Dongguan, Zhongshan, and Foshan warmed more than 0.4 °C every 10 years.

After compiling data from 21 meteorological stations in the PRD region, we calculated the average annual and seasonal temperatures during the 1971–2008 period and compared them with the annual temperatures in Guangdong. Our research showed the PRD has experienced significant warming and has been hotter than the entire Guangdong province during the observed period. Since the 1970s, the PRD has seen its average temperature

FIGURE 1
Importance of GDP in the PRD Region, Guangdong, and China, 1979-2008



Source: He, Yang, and Li (2010).

rise by approximately 1.19 °C to 22.89 °C in the most recent decade, with annual average temperatures remaining above the region's 30-year average temperature of 22.1 °C since 1994 (figure 3).

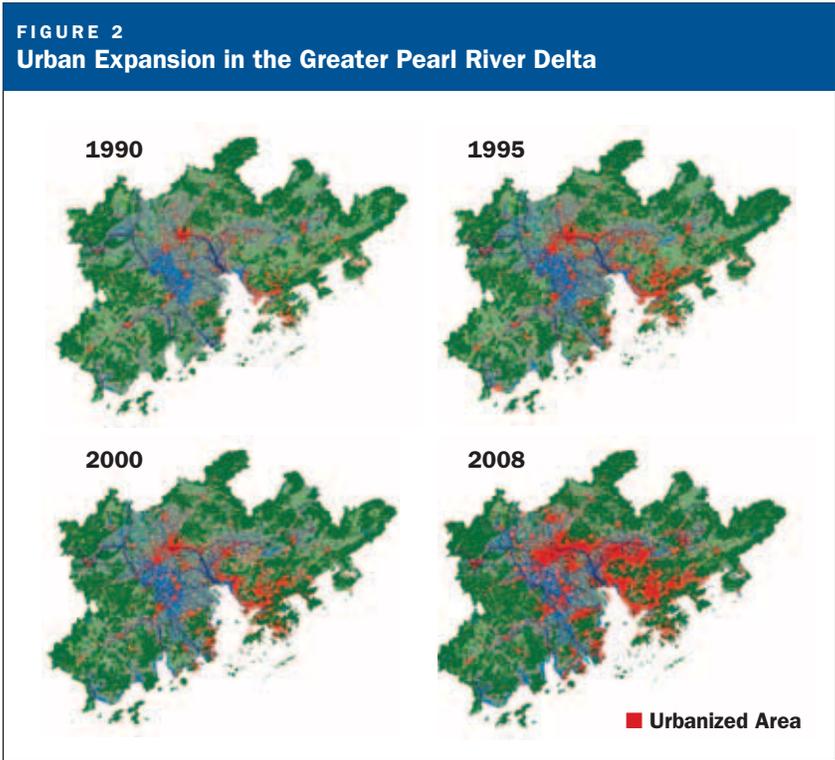
The winter and autumn seasons saw the most considerable temperature increases, with averages

of 24.1 °C in the autumn and 15.2 °C in the winter between 1994 and 2007. These temperatures are significantly higher than their respective 40-year averages of 23.5 °C and 14.6 °C. While not as significant, average spring and summer temperatures in the PRD during the 1997–2007 period were also greater than their 40-year average temperatures of 22 °C and 28.2 °C. This regional warming phenomenon is also seen to a lesser degree in Guangzhou, a populous and characteristic metropolis in the PRD, where average temperatures have risen like those in the greater delta region.

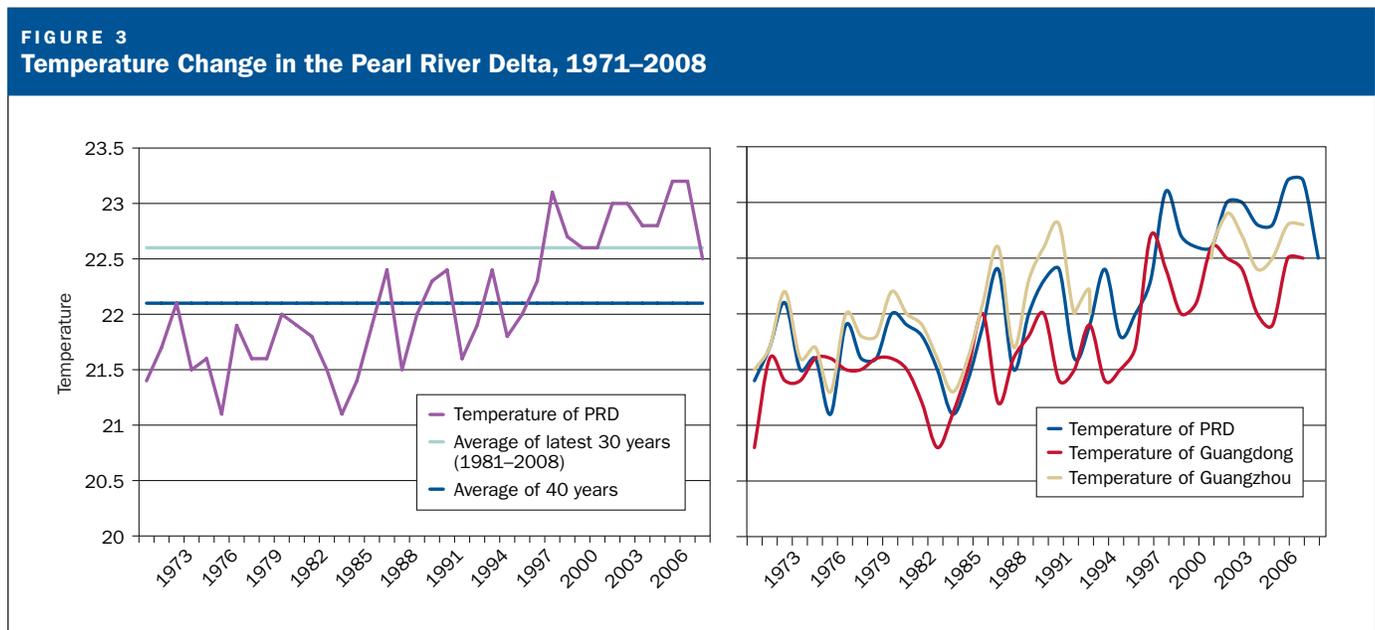
As the PRD's climate has warmed more quickly than that in the rest of the province, the rapid industrialization and urbanization has generated enormous energy demand from manufacturing industries, transportation, and residential consumers, resulting in greater emissions of CO₂ and other greenhouse gases that are contributing to global climate change. The increased concentration of greenhouse gases, both regionally and globally, represents a large latent source of future warming and additional changes.

Impacts of Climate Change

Given its coastal geography and population density, Guangdong is among the most vulnerable of China's coastal provinces to the sort of meteorological disasters that are expected to increase with global warming. In 2008, Guangdong experienced



Source: He, Yang, and Li (2010).



Source: He, Yang, and Li (2010).

TABLE 1
Climate Change Impacts on China's Coastal Provinces, 2008

Province	Marine hazards			Sea level above the average of 1975–1993 (mm)	Estimated sea level rise, 2008–2038 (mm)
	Direct economic loss (100 million yuan)	Deaths	Erosion (km)		
Liaoning	0.24	27	142	50	78~120
Hebei	0.26		280	45	66~110
Tianjin			34	47	76~150
Shandong	12.89		1211	69	89~140
Jiangsu	0.38	6	225	76	77~130
Shanghai	0.02	2	75	47	98~150
Zhejiang	0.97	8	54	39	96~140
Fujian	17.52	11	90	54	68~110
Guangdong	154.29	73	602	75	78~150
Guangxi	15.82	2	168	60	70~110
Hainan	3.66	23	827	86	80~130
Total	206.05	152	3708		

Sources: China Meteorological Administration (2009a; 2009b).

direct economic losses of 15.43 billion yuan and 73 deaths, accounting for 75 percent and 48 percent of national totals, respectively, as well as the loss of 602 kilometers (km) of land to coastal erosion (table 1). With sea levels in the province having risen by 75 millimeters (mm) during the 1975–1993 period, the China Meteorological Administration’s (2009b) prediction that sea levels will rise a further 78–150 mm between 2008 and 2038 represents a serious threat to coastal infrastructure and communities in the PRD.

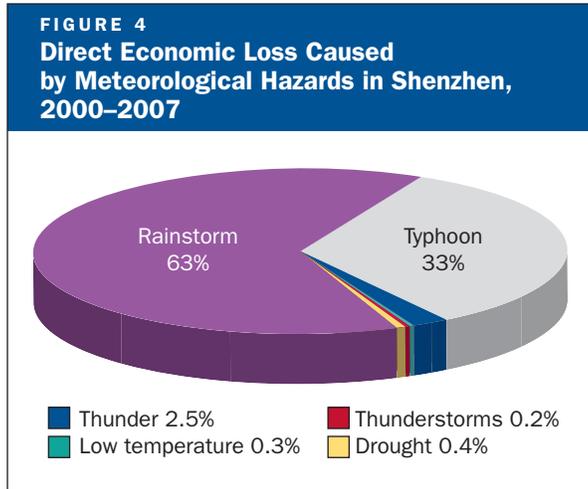
Guangdong has long been impacted by marine hazards such as rainstorms, cyclones, and storm surges that have killed hundreds of people, caused serious damage to housing and transportation infrastructure, and impacted farming in the province. In the 1950s, the annual average farming area affected by marine hazards was about 200,000 hectares (ha), which grew to 440,000 ha in the 1960s and 500,000 ha in the 1970s, before jumping to 1,411,000 ha in the 1990s.

In addition to more frequent extreme storm events, instances of drought also have been increasing in the PRD. In the 1950s, the average farming area affected by droughts in Guangdong was 104,000 ha, which grew steadily to reach 201,500 ha in the 1980s, 282,500 ha in the 1990s,

and 426,400 ha in the 2000s. Given the expected increases in the frequency of extreme weather events, as well as rising temperatures and sea levels, agricultural and mariculture activities in the PRD will be increasingly vulnerable to future climate change.

Cities in the PRD are particularly susceptible to natural disasters and climate change as they concentrate infrastructure, nonagricultural activities, and population, severely impacting economic activities and daily life. Rainstorms and typhoons occur frequently in the region and typically entail serious damage and huge economic losses. During the 2000–2007 period, for instance, rainstorms and typhoons in Shenzhen caused cumulative direct economic losses of 525 and 277 million yuan respectively, accounting for approximately for 63 and 33 percent of total direct economic losses associated with all meteorological hazards in the city (figure 4).

Meteorological hazards also lead to disruptive impacts on facilities, infrastructure, and transportation. Rainstorms and typhoons impose challenges on urban sewage systems and flood control facilities, while prolonged periods of high or low temperatures exert pressure on urban power supply infrastructure.



Source: Wu and Li (2009).

In May 2009, Shenzhen experienced an unprecedented rainstorm, with some parts of the city receiving daily precipitation in excess of 208 mm. The storm flooded 40 areas of the city and left 11 areas under at least one meter of water. Two years before, in April 2007, rainstorms flooded the Qinguhe River in Shenzhen, damaging embankments and toppling power lines. On the other end of the spectrum, in July 2004 Guangzhou suffered a prolonged heat wave that created tremendous demand for electricity. Usage eventually peaked at 8.45 million kilowatts and forced many enterprises to stop production to help conserve power.

Transportation is the lifeline of urban activity and economic production. As two of China's major population and economic centers, Shenzhen and Guangzhou are particularly important national transportation hubs, and any disruptions from extreme weather events such as rainstorms, typhoons, and flooding have far-reaching effects across the country.

When tropical storm *Fengshen* landed in Shenzhen on June 24, 2008, the city's Yantian seaport was forced to close and hundreds of vessels were stuck in port, resulting in huge economic losses. During 2008, four tropical storms and one rainstorm resulted in the cancellation of 249 flights and the delay of 386 other flights at the Shenzhen International Airport, stranding more than 20,000 passengers. In 2009, three major weather events caused the cancellation of 176 flights and the delay of 326 flights, while 4,151 ships were forced to take shelter in Yantian port. As Chinese travelers become more affluent and air travel grows more

rapidly, the vulnerability of these cities to disruption by severe weather events is set to increase.

Disruptive Effects of Sea Level Rise

The China Meteorological Administration (2009b) has identified the PRD as one of the country's areas most at risk from rising sea levels due to its low mean sea level. Previous studies concur that sea levels in the PRD are rising and will continue to do so in the foreseeable future. Figure 5 illustrates the changes in sea level recorded at three tidal gauges (Hong Kong, Zha Po, and Shan Tou) during the 1958–2001 period. Hong Kong recorded a sea level rise of 0.24 centimeters per year (cm/year) during the period, while Zha Po and Shan Tou saw sea levels rise by 0.21cm/year and 0.13cm/year, respectively. Tidal records from six different gauges in the Pearl River estuary show that sea levels have risen at an accelerating rate over the last 40 years.

With the melting of glaciers globally due to climate change, these recent rises in sea level are expected to continue and potentially even accelerate. Li and Zeng (1998) offered three forecasts for sea level rise in the PRD, with 100 cm (high), 65 cm (middle), and 35 cm (low) forecasts by 2100. These predictions have been echoed by similar projections from the Chinese Academy of Sciences (1994), which indicate that sea levels in the PRD would rise by 40 to 60 cm by 2050.

The physical geography and urban development of the delta render it extremely vulnerable to the effects of sea level rise, and many lowland areas are likely to be inundated (Yang 1996). According to calculations by China's National Marine Data and Information Service, a sea level rise of 30 cm could inundate an area of 1,154 k² of coast and islands at high tide, with Guangzhou, Doumen County, and Foshan at particular risk (Guangdong Meteorological Administration 2007).

Coastal and river flooding in the PRD is influenced by several factors: rainfall, high tides, high winds, and typhoons and storm surges. The combination of weather and tidal factors that causes water levels to rise by upwards of three meters during tidal cycles is already well known in parts of the Pearl River Estuary (Tracy, Trumbull, and Loh 2006). According to Huang, Zong, and Zhang (2004), the current maximum tidal range increases as one travels up the estuary, from a low of 2.34

meters near Hong Kong to 3.31 meters at Zhewan, before reaching 3.35 meters at Nansha.

Rising sea levels would magnify the effect of storm surges, which already can be dramatic when weather and tidal factors coincide. Analyzing records from 54 tidal gauges across the PRD, Huang, Zong, and Zhang (2004) created predictions for water level rises in different parts of the delta under a number of different flood scenarios. According to the lowest freshwater discharge scenario (2000 m³/s), their simulations show that a 30 cm sea level rise will affect the northwest part of the region most severely and the majority of the area significantly. These researchers also simulated the impacts of a 30 cm sea level rise on the distribution of flood damage based on four freshwater discharge scenarios, showing that as floods increase in severity the size of the areas affected also increases.

Summary and Discussion

Delta cities enjoy locational advantages that make them attractive to both residents and businesses, and thereby lead many delta regions to develop into vital economic cores in many countries. Delta cities, however, are particularly vulnerable to meteorological hazards and are more at risk than inland cities to the existing and anticipated effects of climate change. The Pearl River Delta has witnessed substantial increases in both sea levels and temperatures, greater variation in rainfall, more frequent extreme weather events, and increasing losses from marine hazards.

More frequent meteorological hazards such as flooding from tropical storms and rainfalls have indeed caused disruptive impacts in the PRD: disrupting agricultural and mariculture production, damaging coastal defenses and embankments, destroying houses and facilities, shutting down transportation, and causing the loss of life. Sea level rise resulting from global warming represents a further threat and challenge in many parts of the region. The cumulative impact of these inter-related weather and climate phenomena have increased the costs of development in the PRD substantially. Fortunately, provincial and municipal governments have realized the importance of climate mitigation and adaptation, and are looking to the experiences of other delta cities around the world for valuable lessons about how best to strengthen urban sustainability and resiliency. 

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Scaling Up Conservation for Large Landscapes



Blackfoot River

© Maria Mantas/The Nature Conservancy

Jamie Williams

The central question facing land conservationists today is how to scale up efforts to protect entire landscapes and whole natural systems. The land trust movement has been built on the individual successes of conserved private properties, but increasingly both conservationists and landowners entering into conservation agreements want to know what is being done about their neighbor, their neighborhood, and most significantly their landscape (Williams 2011).

Farmers and ranchers talk of the need to sustain a continuous network of working lands—a critical mass of agricultural activity—or risk losing the supporting businesses and community cooperation they require to survive. Firefighters say that keeping remote lands undeveloped reduces the hazards and costs of firefighting for local communities. Sportsmen are losing access to public lands and

wildlife when scattered rural development fragments habitat. Conservation biologists have long suggested that protecting bigger places will sustain more species, and conversely that fragmentation of habitat is the leading cause of species decline and loss. Finally, a rapidly changing climate reinforces the need to protect large, connected ecosystems to be resilient over the long term.

With many funders and public partners seeking to focus on collaborative, landscape-scale conservation efforts, the land trust community has an excellent opportunity to leverage its good work by engaging in landscape partnerships. Land trusts, with their grassroots base and collaborative working style, are in a good position to help support local initiatives. The process of building these efforts, however, requires a commitment beyond the urgency of transactions and fundraising, and necessitates a sustained focus that is much broader than the immediate objectives of many land trusts.

What Does Success Look Like?

Montana's Blackfoot River was made famous in Norman Maclean's 1976 story, *A River Runs Through It* (Maclean 2001), but what really stands out about the Blackfoot region is how the community has worked together over many decades to sustain this special place. Building on conservation work initiated by local landowners in the 1970s, the Blackfoot Challenge was established in 1993 to bring the area's diverse interests together around consensus-based approaches to sustaining the rural character and natural resources of the valley. Rancher Jim Stone, chairman of this landowner group, says "we were tired of complaining about what we couldn't do, so we decided to start talking about what we could do."

This collaborative effort has used innovative conservation approaches for the Blackfoot that have been replicated in many other places. The

group's work began with a focus on better managing increased recreational use of the river and protecting the river corridor. The first conservation easement secured in Montana was on the Blackfoot in 1976 as part of this pioneering effort. From that initial success grew more ambitious initiatives with engagement from an expanding set of partners.

When landowners said they were not getting enough help to control weeds, the Challenge established one of the largest weed control districts in the West. When landowners argued there were not enough resources for conserving working ranches, the Challenge helped create an innovative U.S. Fish and Wildlife Service (USFWS) program to purchase conservation easements with the federal Land and Water Conservation Fund (LWCF), which historically has been used for public land acquisition.

When landowners were concerned about the potential sale of vast forest lands in the valley, the Challenge launched a comprehensive acquisition plan that linked protected private ranches on the valley floor with forested public lands at higher elevations. When landowners recognized the need for systemic river restoration, the Challenge and the Big Blackfoot Chapter of Trout Unlimited helped restore more than 48 tributary streams and 600 miles of fish passage for native trout and watershed health (Trout Unlimited 2011).

The Blackfoot Challenge partners with more than 160 landowners, 30 businesses, 30 nonprofits, and 20 public agencies. Clearly, the Challenge's vision for the area is not limited to just a few ranches, but rather is focused on the long-term health of the entire river valley, from "ridge to ridge" in Jim Stone's words (figure 1).

The wonderful aspect of the Blackfoot story is that it is no longer a rare exception but an emblem of a much larger movement of collaborative conservation efforts around the country. These landscape partnerships confirm an emerging consensus about the need to protect and sustain entire landscapes that are vital to the health of fish and wildlife, as well as to the vitality of local communities, their economy, and their quality of life.

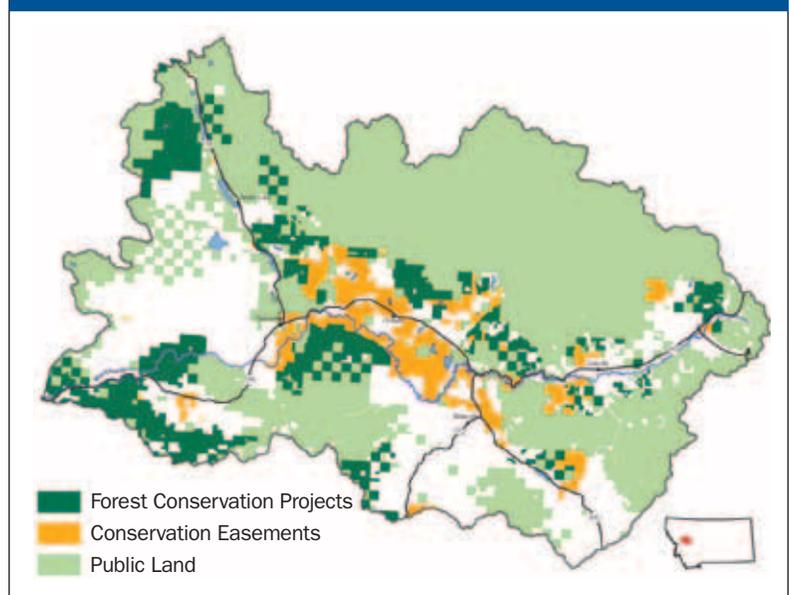
Landowner-Driven Conservation Efforts

The Blackfoot story underscores one of the most important lessons emerging from community-based conservation initiatives—local landowners

should be in front and everyone else behind. An example from the Yampa River in western Colorado illustrates this approach. In the early 1990s, conservation groups were trying to protect the area, but were met with major mistrust by the local ranchers. The valley had no shortage of community visioning exercises and groups trying to conserve the region, but none of the ideas had really taken hold in a meaningful way, precisely because local landowners were not in the lead.

That dynamic was then turned on its head by several landowner initiatives, the most significant being the Routt County Open Lands Plan. The plan's recommendations grew out of a series of local landowner meetings held throughout the county. The plan called for eight significant measures to better manage explosive growth in the valley, ranging from a right-to-farm ordinance to a purchase of development rights program on working ranches. Routt County became one of the first rural counties

FIGURE 1
The Blackfoot River Valley, 2011



Source: Amy Pearson, The Nature Conservancy.

The Blackfoot valley is a large, 1.5-million-acre watershed on the southern end of the Bob Marshall/Scapegoat Wilderness and the Crown of the Continent ecosystem. Historically the watershed has been approximately 60 percent public lands, 20 percent corporate timberlands, and 20 percent private lands. After 35 years of conservation work, approximately 250,400 acres of private lands in the Blackfoot have been conserved, connecting private and public lands over the entire watershed. Approximately 123,800 acres have been placed into conservation easements and 173,060 acres of timberlands have been purchased for conservation and continued community access.

in the West to raise public funds through a local ballot measure to protect working ranches.

The Malpai Borderlands is another enduring example of how landowner leadership can break through decades of gridlock. After years of conflict between ranchers and federal agencies over the management of public lands around the Animas Mountains in the boot heel of New Mexico and southeastern Arizona, Bill Macdonald and other neighboring ranchers helped spearhead a landowner collaborative called the Malpai Borderlands Group to reintroduce fire for the health of grasslands and the local ranching economy. That effort grew into an innovative partnership among ranchers, conservation groups, and public agencies to conserve and sustain this one-million-acre working wilderness through conservation easements, grass banking, and a more integrated stewardship approach to the system as a whole.

Land Trusts and Public-Private Partnerships

As significant as landowner leadership is to collaborative, landscape-scale conservation efforts, land trusts and agencies also can play a vital role in leading from behind as a reliable partner with deep local ties, knowledge of outside resources, and an ability to implement research and conservation projects. On Montana's Rocky Mountain Front, for example, local ranchers are working together with several land trusts and the USFWS to protect working lands through conservation easements. The local landowner committee has been led by several local ranchers, but their 20-year friendship with Dave Carr of The Nature Conservancy has been pivotal in their staying engaged. Greg Neudecker of the USFWS's Partners for Wildlife Program has played a similar role in the Blackfoot, given his 21-years of service to community collaboration there.

Many landowners and land trusts hesitate to bring public agencies into landscape partnerships because they often pride themselves on achieving conservation through private action. When engaged as part of landscape partnerships, however, state and federal agencies can be very effective allies. In the Blackfoot, the science, research, monitoring, funding, and restoration work delivered by the State of Montana and the USFWS has made a huge impact on the recovery of the river system.

On the land protection front, public acquisition of extensive timberlands in the Blackfoot has com-

plemented private land trust work by consolidating public lands and maintaining community access to those lands for grazing, forestry, and recreation. Recognizing the problems associated with a century of fire suppression, the U.S. Forest Service has initiated experimental thinning projects of small-diameter stands to restore the structure and function of forestlands and reduce the fire threat to the valley. That work is now being expanded through a new federally funded Collaborative Forest Landscape Restoration Program (CFLRP) across the Blackfoot, Clearwater, and Swan valleys.

The larger principle is that all the major stakeholders have to be at the table, working together toward their common ground. David Mannix, another Blackfoot Challenge rancher, explains what they call the 80–20 rule: “We work on the 80 percent we can agree on and check the other 20 percent at the door with our hat.” Jim Stone claims that when people show up at a Blackfoot Challenge meeting, “We ask you to leave your organizational agenda at the door and put the landscape first,” focusing on the health of the land and the community so closely tied to it.

What's really important is having the “right people” at the table for private-public partnerships to work—creative individuals motivated by a common vision and humble enough to recognize that they do not have all the answers. Collaboration takes time. Once common-ground approaches are developed, it is critical to have initial success, however small, that can build the kind of foundation needed for bigger solutions down the road.

The Need for Funding

The most serious barrier for local collaborative groups to achieve landscape-level goals is the lack of adequate funding. Without sufficient financial support, collaborative efforts often lose momentum, which can set back this kind of work for years.

Funding is not a static element, but it is responsive to the scale of the outcomes that can be achieved and the breadth of the constituency engaged. Neither private nor public funders want to participate in partial success unless it is a step toward a long-term, sustainable goal. And they do not want to fund places where groups are competing. Increasingly, land trusts and agencies have come to realize the potential of what can be achieved through collaboration. Donors consistently have led on this issue because they under-



© John Lambing

stand a resource-constrained world and the value of leveraging diverse strengths and funding.

Even when great collaborative efforts come together around common goals and achieve a heightened threshold of success, a serious funding gap often exists in achieving truly landscape-scale conservation. Mark Shaffer, former director of the Doris Duke Charitable Foundation's Environment Program, estimated this gap to be about \$5 billion per year in new funding and tax incentives needed over the next 30 years to conserve a network of important landscapes in the United States.

The land trust community is now conserving land at the rate of about 2.6 million acres per year—a cumulative total of about 37 million acres according to the last census in 2005 (Land Trust Alliance 2006). However, to sustain whole landscapes before urgent threats close the window of opportunity, that rate needs to double or triple, and efforts must be conducted in a more focused way.

Emerging Opportunities for Landscape-Scale Conservation

There are several major trends and near-term opportunities that could enhance landscape-scale conservation efforts, but their success hinges on land trust engagement and leadership. First, it is critical that Congress make permanent the

enhanced deductions for conservation easements. The Land Trust Alliance (2011) points out that these deductions can protect more than 250,000 additional acres per year. Given the current congressional focus on spending cuts and tax cuts, this is one of the few conservation finance tools that may be achievable in the near term. Over the longer term, a national transferable tax credit program, similar to those in Colorado and Virginia, could create an enormous incentive for securing conservation easements.

The second trend relates to increasing the federal focus on protecting whole landscapes by empowering communities that are already working together. In 2005 the Bush administration launched a Cooperative Conservation Program that provided improved agency coordination and capacity grants for local collaborative work. In 2010, the Obama administration launched the America's Great Outdoors Initiative to help communities better sustain their land and water resources through locally driven partnerships and to reconnect America's youth to the natural environment (Obama 2010).

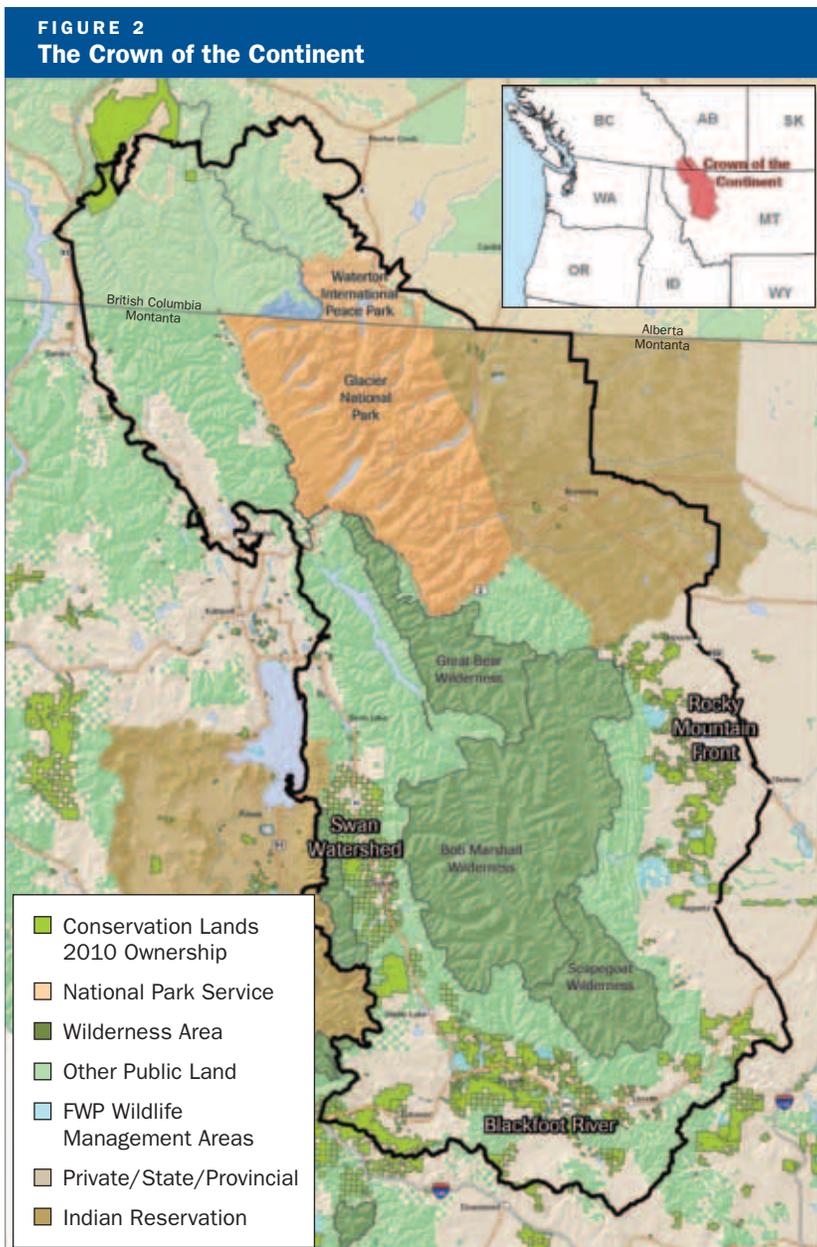
While federal resources are highly constrained in the near term, existing programs and funding could be more focused on whole landscape conservation projects. Secretary of Agriculture Tom

Swan Valley Watershed

Vilsack has announced a major policy shift for the department to an “all lands” approach to conserving and restoring the big systems of the United States. For example, the Natural Resources Conservation Service recently announced that it would reinvest \$89 million of unspent Wetland Reserve Program funds to purchase conservation easements over 26,000 acres of working ranches in the Florida Everglades. The opportunity facing the land trust community is to ensure that these projects are implemented in a manner that builds broad support for this work over the long term.

The third opportunity is passing local and statewide measures to increase funding and tax incentives for conservation. Despite the weak economy and pervasive talk of less government and lower taxes, voters in the 2010 elections passed 83 percent of the ballot initiatives presented nationwide to fund land and water conservation. Overall, 41 of 49 funding measures passed, generating more than \$2 billion for land, water, parks, and farmland conservation over the next 20 years (The Trust for Public Land 2010).

The final trend and opportunity for the land trust community is partnering with private capital funders on major land conservation projects. Between 1983 and 2009, more than 43 million acres of forest lands traded hands (Rinehart 2010). New private equity groups, called Timber Investment Management Organizations (TIMOs) and Real Estate Investment Trusts (REITs), picked up 27 million acres of this land in a very short period, and many of these investment groups, including Lyme Timber, Conservation Forestry, Ecosystem Investment Partners, Beartooth Capital Partners, have conservation as part of their business model.



Source: The Nature Conservancy.

The Question of Scale

An ongoing trend in conservation has been an expanding focus from individual properties to neighborhoods, landscapes, ecosystems, and now networks of ecosystems. For example, landowners in the Blackfoot, Swan Valley, and Rocky Mountain Front have come to realize that the health of their landscapes depends on the health of the larger Crown of the Continent (figure 2).

Surrounding the Bob Marshall Wilderness and Glacier-Waterton International Peace Park, the 10-million-acre Crown is one of the most intact ecosystems in North America. Thanks to a century of public land designations and 35 years of private land protection by local communities, this ecosystem has not lost a single species since European settlement. Landowners and other partners have been reaching across the Crown in a variety of ways to see how they can work together more closely for the good of the whole.

Even in the Crown’s large expanse, the sustainability of its wildlife populations depends on their connections to other populations throughout the Northern Rockies. That even larger network of natural systems can only be realized, however, if critical linkage areas can be sustained. For this

reason, land trusts in Wyoming, Idaho, Montana, and Canada have been collaborating through a framework called the Heart of the Rockies to identify common priorities and conservation needs. This level of regional collaboration has resulted in both a new level of conservation and more attention from funders. It has also been pivotal for land trust collaboration around common policy priorities.

Organizing at these larger scales is truly imperative if we are to sustain well-connected natural systems, but it is also important to understand what can be achieved at each scale. Large regional initiatives are important for creating a broad, compelling vision, but not for implementing conservation on the ground. Such large-scale approaches are good at applying science at nature's scale, creating regional collaboration around common priorities and a forum for exchange on innovative ideas, and bringing greater attention to the area. They also provide an important context for why local work is so significant.

Melanie Parker, a local leader for collaborative conservation efforts in the Swan Valley, cautions: "We need to aggregate our efforts across the larger region to influence policy and to access resources, but anyone who thinks that conservation work can or should be done at the scale of 10 million acres is seriously misguided. This kind of work has to be done at the scale at which people live, work, and understand their landscapes."

Local people are moved to act by the power of their own place and in their own way. Designing strategies at a large scale is often too abstract for landowners at best, or outright alienating at worse. As in politics, all conservation is local. Likewise, politicians are most responsive to homegrown projects devised and backed by local residents. How large place-based efforts really can be and still hold community cohesion is an important question, but certainly the Blackfoot, Rocky Mountain Front, and Swan Valley are pushing the outer limits. Each is addressing lands at the scale of 0.5 million to 1.5 million acres.

Land trusts can add value to local efforts through regional collaboration. While landowners and local residents often do not have the additional time to participate in these larger initiatives, they want their place and specific issues to be well-represented. Land trusts and conservation organizations can play the very important role of connecting local, place-based groups, but they need to coordinate

with those groups and not get out in front of them. In the end, the land trust community could be well served by strengthening its collaborative work, by deepening its engagement in landscape partnerships, and by working at larger scales to achieve conservation success.

Conclusion

After many decades of outstanding work, the more than 1,700 land trusts across the country can use their momentum to conserve the large systems that matter for people and nature. Indeed, this is what communities are asking for and what nature needs to survive. Moving beyond isolated victories to a more interconnected conservation vision is just as important for local sustainable economies and recreational access as it is for wildlife corridors and healthy watersheds. To be successful at this scale requires real collaboration and a reorientation for everyone involved. With the many opportunities currently rising for whole-landscape conservation, the moment is ours to seize. **L**

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Recent Experience with Land Value



Paulo Henrique Sandroni

As a city grows in size and building density, improvements to the land supporting the new development are usually part of the growth process. However, the combination of demand for additional construction sites and the limited amount of physical land available for development often results in land price increases.

This land scarcity is caused by three primary factors: the ability of landowners to retain serviced land from the market (attributed to a concentration of land ownership and legal and other institutional constraints); difficulties in accessing areas not yet prepared for occupation due to a lack of infrastructure; and restrictions imposed by zoning. Each of

these factors has its own dynamics, but they are not necessarily present at the same time. Such is the case in Brazilian cities, particularly São Paulo, where these restrictive factors do not always operate in the same way with regard to land price.

For example, building regulations may reduce the land price of individual plots, but increase the overall price when the regulations affect all plots and thus restrict housing supply. A large stock of vacant land controlled by a few owners can cause price increases, while the lack of accessibility can result in lower prices. Land price also depends on the nature of the land regulation. As the city grows, the greater demand for buildable urban land generally results in added values if the existing infrastructure supports a more intense occupation of land and the zoning regulations (or

Capture in São Paulo, Brazil



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changes thereto) also permit higher building density.

To examine these issues, we must consider first how the investment in infrastructure that provides or intensifies the means of access and use of land is financed; and second how the benefits and costs from the land improvements are distributed. Generally the cost of public services (e.g., streets, bridges, sewers, lighting, water) is paid with public funds, whereas the improvement or added value to the land created by the public investment in infrastructure, with few exceptions, is reaped by the owners of the improved property entirely free of charge.

Increases in property value also may result from simple changes in the use of land that is already accessible, for example when land previously considered rural is redefined as urban. Changes in

potential densities due to new zoning regulations can create great benefits for the affected properties, although in this case as in the previous one future pressure on the infrastructure will require substantial public investment.

The Legal Framework

Owners of improved property in Brazil, as in most countries, traditionally appropriated the added value generated by public sector investment and zoning changes. The notion that owners should not be the only beneficiaries of such improvements was introduced in Brazil gradually during the 1970s, and this principle was incorporated in articles 182 and 183 of the 1988 Federal Constitution. These articles were subsequently regulated by Federal Law No. 10,257 of 2001, also known as the

Urban Development Act or City Statute (*Estatuto da Cidade*).

Since 1988 urban development has been a matter of federal law. In practice, the federal legislation ratified the principle of the social function of urban land ownership and the separation of the right to own land from the right to build. Based on the 2001 act, the City of São Paulo approved its Strategic Master Plan in 2002 and Land Use Law 13,885 in 2004. These laws introduced the mechanism of Charges for Additional Building Rights (*Outoga Onerosa do Direito de Construir*—OODC), established minimum, basic, and maximum coefficients of land use (or floor area ratios), and limited the supply of buildable area. These tools, utilized together, enabled the municipality to improve land management efficiency, promote socially desirable outcomes, and increase revenues.

The minimum coefficient or floor area ratio (FAR) refers to the minimum use expected from a plot to comply with its social function; the basic FAR refers to the buildable area that any owner has the right to develop by virtue of ownership; and the maximum FAR is the amount of development that could be supported by the existing infrastructure and zoning regulations. The charges associated with the OODC are imposed on the difference between the maximum FAR and the basic FAR of a plot.

The Administration of Building Rights

The OODC is the monetary compensation paid by those who receive new building rights (buildable area) from the government. This development concession (provided by articles 28, 29, 30, and 31 of Federal Law 10,257 of 2001 and defined in articles 209 to 216 of the 2002 Strategic Master Plan) is one of the regulatory instruments used to administer building rights in the city, except in areas designated for large-scale urban operations that use a special legal instrument to encourage public-private interventions (Biderman, Sandroni, and Smolka 2006).

The basic FAR of land use established in 2004 varies between 1 and 2, depending on the area of the city considered. The maximum FAR can be 1, 2, 2.5, or 4, also depending on the area. In some urban areas these new regulations reduced building rights by establishing a basic FAR of 1 for land that had been designated 2 or more under prior legislation. In parallel, the municipality of São

Paulo used the OODC to extend the building potential or the maximum FAR up to 4 on land that previously could be developed up to only 1 or 2.

As a result, in certain areas where the FAR was reduced from 2 to 1, developers could submit projects using the former FAR 2, or even the maximum FAR 3 or 4, as long as they paid the government for the additional buildable area corresponding to the difference between the basic FAR and the FAR used in the project. This instrument favors developers, assuming they find the charges cost-effective, because it allows them to build up to FAR 4 in areas where formerly the maximum was FAR 2. Typical landowners do not always find this tool advantageous, however, since the building potential of their land may be reduced and a charge may be imposed on what they previously perceived as a right to build, free of any charges.

Landowners of small lots and low-density housing may not notice what they could be losing when the FAR is changed because they typically view their property as combining the land, building, and other improvements. It is difficult to separate the value of land from that of improvements, so an eventual land value decrease is not perceived immediately. Furthermore, the expansion of the real estate market in São Paulo coincided with the approval of this new legislation in 2004, and the overall increase in land prices may have compensated the eventual price decline associated with changes in FAR. It is also necessary to note that the expansion of government credit for house financing since 2006 contributed to an increase in demand for land and consequently the rise of land prices.

For the developers, the increase in FAR to 4 in areas where the maximum had been 1 or 2 constituted a favorable situation. They could invest more capital in land and make more profitable undertakings, thus compensating for the extra payment they made for the difference between the basic and the maximum FAR. Gradually, developers were convinced that it was better to pay this land value increment to the government than to private owners because the government converted the payments into improvements that frequently benefited the developers' projects.

The 2002 Strategic Master Plan and Law 13,885 of 2004 also limited the supply of residential and nonresidential building potential in all city districts

TABLE 1
Stock of Residential Building Rights by Region in São Paulo

São Paulo City Region	Buildable area (thousands m ²) 1/10/2010 ¹				Total districts per region	Number of districts not available ²	% districts not available	Specific districts where residential building rights are no longer available.
	Total	Licensed	Available	% Available				
North	876	307	569	65.0	17	3	17.6	Jaragua, Limao, Villa Guilherme
Center	365	159	206	56.5	8	3	37.5	Bela Vista, Cambuci, Liberdade
East	2109	736	1373	65.1	33	3	9.1	Agua Rasa, Belem, Mooca,
West	1422	543	879	61.8	14	4	28.6	Jaguare, Lapa, Morumbi, Vila Leopoldina
South	2147	947	1200	55.9	19	4	21.1	Campo Grande, Capao Redondo, Cursino, Ipiranga
Total	6919	2692	4227	61.1	91 ³	17	18.7	

1. Law 13.885 of 2004 determines where and how many additional building rights are available.
2. 90 percent or more of the building rights on buildable areas have been licensed for new development.
3. Excludes five districts where there is no buildable area, e.g., ecological reserves.

Source: Secovi (2010).

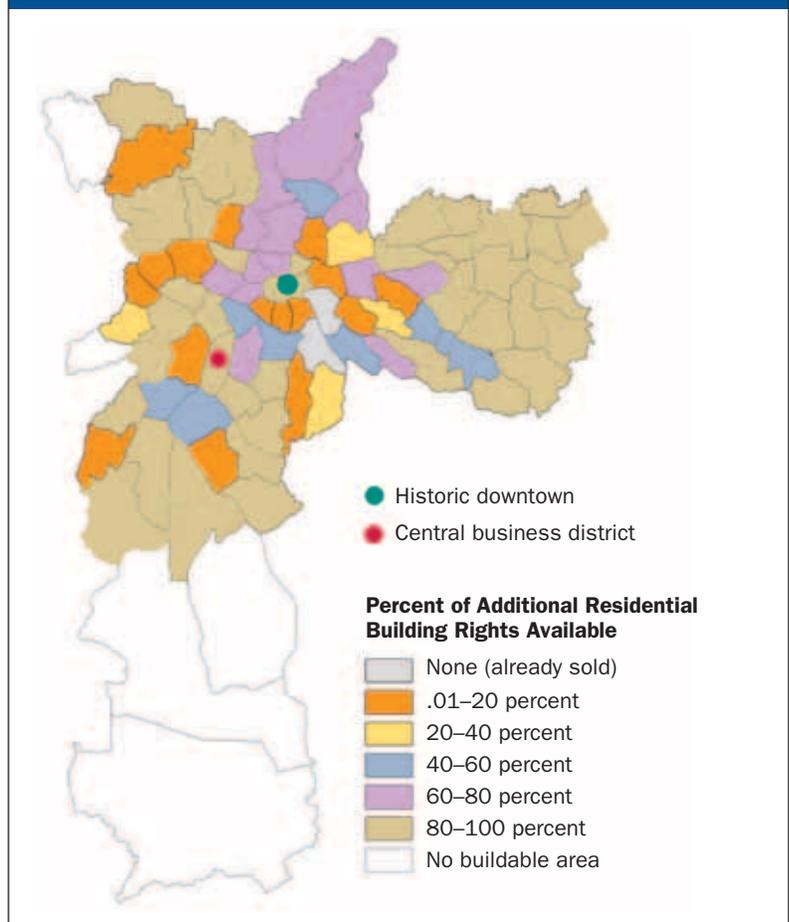
by establishing a total additional buildable area of 9,769 million square meters (m²): 6,919 million m² for residential use and 2,850 million m² for nonresidential use (table 1). This potential did not include the buildable areas inside the perimeter of São Paulo's 13 urban operations. The additional areas were distributed among the 91 out of 96 city districts, excluding five environmentally protected areas. This definition and demarcation of the potential building stock introduced a new element to the real estate market.

Once the maximum building area was known, developers anticipated land scarcity in those districts where the supply was low and the real estate dynamic high, thus unleashing a trend in higher land prices. The lack of buildable area, in turn, lead to pressures from real estate developers for the government to increase the supply—that is, to change the building area limits in some districts during the 2007 revision of the master plan—but their efforts were not successful. By October 2010 the land supply had been exhausted, or was very close to it, for residential use in 17 districts and for nonresidential uses in 5 districts (figure 1).

Planning and Social Interest Factors

The formula to calculate the OODC charge adopted in São Paulo's 2002 Strategic Master Plan takes into account planning and social interest factors in addition to the characteristics of the parcel

FIGURE 1
Districts of São Paulo Where Residential Density Can be Increased



Source: Secovi (2010).



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and the actual economic benefit allocated to the property as a result of the OODC.

The planning factor is an instrument that seeks to encourage or discourage higher densities in certain areas, depending on the existing infrastructure, especially public transport and mass transit. The planning factor is also used to obtain greater financial compensation from the sale of building rights for businesses in improved areas of the city, as the coefficient varies according to whether the land use is residential or nonresidential.

The social interest factor establishes exemptions or reductions in the financial charge, depending on the type of activity to be developed on the parcel. The coefficient ranges from zero to one and is applicable to a variety of activities. For example, the coefficient for affordable or social housing is zero, which means that developers of this type of housing do not pay compensation for additional building rights. Similarly, nonprofit hospitals, schools, health and infant care clinics, cultural facilities, sports and leisure institutions, and houses of worship have a coefficient of zero.

These factors act as incentives for desirable social outcomes, since the smaller the planning and social interest factor coefficients applicable to a given area, the smaller the charge to be paid,

and the greater the incentive for projects to be developed in the area.

Revenue Impact and Allocation of Funds

Total revenues from OODC payments reached R\$650 million (US\$325 million) in approximately five years, in spite of the global financial crisis that constricted credit by end of the period (table 2). These funds are deposited into the Urban Development Fund (FUNDURB), which was created to implement plans and projects in urban and environmental areas, or other interventions contemplated in the 2002 master plan.

As of September 2008, the number of projects approved to be financed by FUNDURB included 15 linear parks (R\$42.5 million), sidewalk and street improvements (R\$21.2 million), drainage and sanitation (R\$108 million), community facilities (R\$ 21.1 million), regularization of informal settlements (R\$50 million), and restoration of culture heritage buildings (R\$37 million).

Concluding Remarks

After the City of São Paulo approved the 2002 Strategic Master Plan, the principle of development concessions and buildable land was applied throughout its territory. When a real estate project

exceeds the basic FAR and the developer wants to build up to a maximum of 4, payment of financial charges to the government is required. Since the OODC was introduced, revenues have increased annually. One should keep in mind that these revenues are net of the more than US\$1 billion generated from 2 of the city's 13 Urban Operations (Faria Lima and Agua Espraiada) where major zoning and density changes are occurring (Biderman, Sandroni, and Smolka 2006). In those areas the new building rights are priced through the auction of CEPACs, and the revenues must be invested in the area corresponding to the urban operation instead of going to the FUNDURB fund to benefit the city as a whole (Sandroni 2010).

The charge for building rights in São Paulo does not seem to have affected the profitability of developers. On the contrary, increasing the maximum FAR to 4 in some areas of the city contributed to enhancing the developers' rates of return. However, setting a maximum reserve for building rights seems to have caused an upward trend in land prices, especially in districts where the supply of buildable area is low. In some districts developers proceeded to deplete the supply of residential building rights quickly. This type of response will probably intensify in the future, thus putting pressure on the city government to raise the maximum stock of buildable area and/or the maximum FAR. If this happens, there is a risk that the motivation to increase municipal revenue may outweigh urban planning criteria and the limitations of infrastructure, especially public transportation and mass transit.

Moreover, the flow of financial compensation will not be continuous. Unlike property tax revenues that recur annually, revenues from the sale of building rights will fade in time as the additional building potential is exhausted. In some sectors of the city the supply of buildable area has already been depleted, and the city has achieved its defined goal for building density. However, future changes in the master plan may provide greater building potential for these areas, depending on technical recommendations and the political conditions for the change to take place.

In sum, the application of the principle of the social function of property, embedded in the 2002 Strategic Master Plan for São Paulo, enabled the enactment of municipal legislation that clearly separates the right of ownership from the right

	Estimated (R\$ thousands)	Actual (R\$ thousands)
2005		41,070
2006	104,154	64,725
2007	160,000	99,937
2008	250,000	118,127
2009	300,000	115,928
Nov. 2010	162,000	210,390
Total		650,177

Source: Prefeitura Municipal de São Paulo, Secretaria de Financas.

Note: Average exchange rate: 1 US\$ = 2 R\$

to build. As a result, the traditional notion of all-encompassing property rights is no longer sustained, and land ownership cannot override the public interest or take precedence over the social function of property. Consequently, existing building rights can be reduced without landowners being entitled to monetary compensation simply because their hopes have been dashed. **L**

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Cities and Infrastructure: A Rough Road Ahead

Gregory K. Ingram and Anthony Flint

American cities have promising long-term prospects as hubs of innovation and growth, with expansion in technology and health sciences beginning to offset the decades-long erosion of manufacturing. Cities also remain places of vitality, offering urban design, density, and transport options that attract residents of all ages and backgrounds. In fact, nine of the ten most populous U.S. cities gained population over the last decade, according to the 2010 U.S. Census.

Yet the short-term prospects for cities are fraught with challenges. The recent sharp decline in tax revenues, caused by the 2008 housing market collapse and related financial crisis and economic slowdown, has made it extraordinarily difficult for state and local governments to maintain basic services, let alone plan for investments in infrastructure. Federal funds from the American Recovery and Reinvestment Act (ARRA) helped local governments offset revenue declines in the past three years, but ARRA funds are no longer available for the coming fiscal year (a transition now termed “the cliff”), leaving local officials to confront the full force of revenue shortfalls.

The 2011 Journalists Forum on Land and the Built Environment: The Next City brought scholars, practitioners, and political leaders together with print and broadcast journalists to explore the theme of infrastructure for cities in the context of the ongoing economic recovery. This program is an annual partnership of the Lincoln Institute of Land Policy, the Nieman Foundation for Journalism at Harvard University, and Harvard Graduate School of Design.

Two roles for infrastructure investments and related services permeated discussions at the Forum. First was the near-term role of investment in infrastructure as a fiscal stimulus aimed at turning

around the economy and increasing employment. Second was the longer-term role that infrastructure plays in sustaining the transformation of municipal economies and increasing their competitiveness and livability in a globalized world.

Infrastructure and the Local Government Fiscal Crisis

The country’s need for fiscal stimulus to jump-start the economy in 2009 raised the prospect of massive infrastructure investments to help meet that need. However, the kinds of projects that could be launched quickly at the local level tended to be smaller-scale efforts, such as roadway repairs and facilities maintenance. More ambitious initiatives, such as intercity high-speed rail, failed to materialize due to spending and debt concerns and because much more design was needed before implementation could proceed.

Lawrence H. Summers, who recently returned to his professorship at Harvard after being director of the White House National Economic Council, defended the Obama administration’s stimulus plans, which he said were necessary to restore confidence in the financial system and keep the recession “out of the history books.” However, he said, “while local governments were able to use stimulus funds to cover revenue shortfalls, there were very few large shovel-ready projects.”

Moreover, the grim reality of fiscal stress is that cities cannot focus on large-scale, long-range infrastructure projects because they are struggling to cut spending and reform the delivery of local public services, noted Michael Cooper, reporter for *The New York Times*. Some examples of lost services include the Hawaii program that furloughs public school teachers every Friday through this school year; the San Diego boy who died choking on a gumball because a nearby fire station had been shuttered on a rotating basis; Colorado Springs’ decision to turn off a third of its streetlights each



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night and to auction off the police helicopter; and the California town that recalled its mayor because he revamped the city's failing wooden pipes in its water system, but increased water fees to pay for it.

Many jurisdictions also have ongoing fiscal problems with the underfunding of pension funds and benefits. Some are worsening the problems simply by not making the required annual payments, a stopgap applied by Governor Chris Christie in New Jersey, among others. The municipal bond market faces tumult and some cities, like Harrisburg, Pennsylvania, are on the brink of bankruptcy. Fiscal deficits are growing because local governments have now expended the last of their ARRA funds.

Adrian Fenty, former mayor of Washington, DC, said cities need to be run on a more business-like basis, moving to the politics of performance and away from the politics of patronage. Improvements are needed in both the efficiency of basic service delivery and the management of city finances. Because education is so important to the economic growth of cities, his administration gave priority to education reform—human infrastructure as well as physical infrastructure. During his term as mayor, his administration closed 20 percent of the schools and reduced administrative personnel by 50 percent. He also revamped teacher contracts,

offering a merit pay system without tenure that 60 percent of the teachers opted to join.

Infrastructure Challenges: The Case of High-Speed Rail

President Barack Obama's \$53 billion high-speed rail initiative has brought the challenges of the local government fiscal crisis into sharp relief. Governors in Florida, Ohio, and Wisconsin returned the federal funding allocated to those states for intercity rail, claiming that their state and local governments could not possibly afford the resulting maintenance and operating costs, and questioning ridership projections. The high-speed rail project in California, though financed by a voter-approved bond issue, faces similar opposition because of financial burdens and local land use disputes.

Bruce Babbitt, former governor of Arizona and secretary of the U.S. Department of Interior, and a member of the Lincoln Institute board of directors, said the Obama administration's campaign for high-speed intercity rail was a "political disaster," and that the underlying vision needed a reassessment. He suggested that the Northeast Corridor should be the model, and that a revised plan should include a well-defined system of reliable financing—similar to the approach used to build the interstate highway system.

Boston's well-used subway system is one of the oldest in the country and in need of upgrading.



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People gather on New York's High Line elevated park under the new Standard Hotel.

Paying for high-speed rail infrastructure will require a dedicated funding stream, perhaps from an increase in the gasoline tax in the states where the new rail lines would be located, and a system of value capture to engage private landowners who benefit from increases in property value as a result of such public works projects. “We don’t have the political courage to define our priorities,” Babbitt said. It will take a “national hammer” to address the nation’s infrastructure deficit without abdicating control to governors and states.

High-speed rail may live or die based on economic considerations. Petra Todorovich, executive director of America 2050, which has issued numerous analyses of high-speed rail’s potential, proposed a framework of 12 U.S. megaregions that represent collections of metropolitan areas where enhanced rail service offers the greatest potential for replacing automobile and short-haul airline travel. High-speed rail can deepen labor markets, increase agglomeration economies, and boost productivity by linking urban centers. Japan, France, and China are among the countries that have demonstrated how rail lines between major cities can foster economic synergies through the strategic location of high-speed rail stations and their connections to commuter rail and transit.

This economic payoff argument was seconded by Edward Rendell, former governor of Pennsylvania and mayor of Philadelphia, who is part of Building America’s Future, a campaign for invest-

ments in crumbling infrastructure nationwide. Rendell argued that the United States has been resting on its past investments, and that shoring up the nation’s decaying physical foundations is now an urgent priority. Without world-class infrastructure, the country will not be competitive in attracting private investment, sustaining rapid technological innovation and productivity growth, or maintaining the growth of good jobs domestically.

Infrastructure and the Future of Cities

As the recovery continues and economic growth returns, investments in new communication technology, green energy, smart urban systems, transport such as high-speed rail and mass transit, and other infrastructure will be needed to help cities fulfill their roles as the centers of innovation, culture, and productivity.

The vision of infrastructure combined with long-range planning is also a central theme in how cities can adapt to the inevitable impacts of climate change, including a possible one-meter sea level rise and associated storm surges, flooding, and increasing numbers of extreme weather events. Infrastructure in most coastal cities is so old that even a moderate storm event can do extensive damage, said Ed Blakely, public policy professor at the University of Sydney and former hurricane recovery czar in New Orleans.

Cities have been able to base their current plans on the relatively calm meteorological record of the

last 200 years, but that calm is likely to erode with climate change, making much of the existing infrastructure inadequate or obsolete. Attention should not be focused on rebuilding after disasters like Hurricane Katrina, Blakely said, but on relocating, repositioning, and “future-proofing” for more resilient cities.

Infrastructure as an amenity that improves city livability is seen in New York’s High Line project, the conversion of an elevated freight line through the Meatpacking District and Greenwich Village. One of the architects on that project, Liz Diller, principal in Diller, Scofidio + Renfro, suggested that such retrofits can transform urban areas, provide a focal point for social and cultural events, and promote economic activity—though she cautioned that “architecture can’t really fix big problems.”

In spite of the current fiscal crisis, cities are expected to experience other changes that may aid their economic recovery. Among these are the fallout from the current housing crisis that is likely to spur demand for rental units and the demographic shift as the baby boom generation enters retirement age and begins to downsize housing choices.

Professor Arthur C. (Chris) Nelson, professor at the University of Utah, noted that both changes may generate more demand for urban lifestyles. For example, the current reduction in demand for owner-occupied, single-family houses at the metropolitan periphery is evident in the Intermountain West, Southwest, and South, where entire subdivisions are virtually empty. The percent of households owning homes has declined from a high of 69.2 percent in 2004 to 66.4 percent in 2011, fostering more demand for rental units that typically are located in more urbanized areas.

Demographic shifts are also related to changes in household composition. By 2030 single-person households will constitute one-third of the population, and only about one out of four households will include children, a decline from 45 percent with children in 1970 and 33 percent in 2000. These changes are likely to foster a significant adjustment in housing markets and values as aging baby boomers offer their suburban houses for sale and move to more urbanized locations with access to transit and walkable neighborhoods. At the same time, upcoming changes in mortgage markets and the reform of Fannie Mae and Freddie Mac may make mortgage financing (and homeownership) more costly and cause younger families to choose renting over owning.

Cities as Engines of Growth

Investing in infrastructure to support metropolitan regions might have an additional rationale grounded in the surprising resilience of cities themselves. The ongoing urban resurgence is visible in the income growth of highly skilled professionals, the relatively modest housing price declines and even recent increases in several prospering cities, and a concentration of innovation in urban areas, said Harvard economics professor Edward Glaeser. “We could move anywhere that suits our biophilia,” he said. “Yet we keep flocking to cities.”

Urban population growth is highly correlated with average urban incomes, education levels, and the share of employment in small firms as cities continue to draw entrepreneurs and foster productivity. If incomes everywhere were like those in New York City, the national GDP would rise 43 percent, Glaeser said. Cities will also continue to be prized for their environmental value as places of density and transit, reflecting relatively lower per capita energy use and carbon emissions than suburban and rural areas. Glaeser argued against restrictive zoning and regulations that discourage greater density and leave older, low-rise urban neighborhoods “frozen in amber.” He also stressed that public education remains the most important investment that cities can and should make to enhance their continued economic growth and quality of life.

As both the national economy and local government revenues recover, a key priority will be to balance expenditures between current services and longer-term investments. Economic growth will make it easier to finance investments in infrastructure, but investments in infrastructure are needed to increase economic growth. The challenge is to find a politically feasible way of breaking into this virtuous circle. 

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Sally Powers has been a visiting fellow in the Department of Valuation and Taxation at the Lincoln Institute of Land Policy since 2009. She was director of assessment for the City of Cambridge for thirteen years until 2001, when she became an international consultant. That work has taken her to Kosovo, Montenegro, South Africa, the Kyrgyz Republic, and Turkmenistan, among other countries, where she has participated in projects on property taxation, market value revaluations, and establishment of a valuation profession for a transition economy.

Her career as an assessment administrator and consultant has involved all aspects of property taxation: legal framework, property appraisal, value defense, local government finance, tax policy, project planning and execution, public information, software specification and testing, cadastral/GIS (geographic information systems) mapping and analysis platforms, and tax collection and enforcement. Her research interests focus on mass appraisal, specifically the application of econometric techniques to analyze market activity and develop models to estimate the market value of properties that have not sold. She has written on topics as diverse as appraisal modeling, implementation of the local property tax in Kosovo, and property tax collection strategies.

Powers received her bachelor's degree in anthropology from the University of Chicago, and she holds a Master of Science degree from the Boston College Carroll School of Management.

Sally Powers

LAND LINES: *How does your work fit within the research and education program of the Lincoln Institute?*

SALLY POWERS: The Lincoln Institute is a leader in property tax policy, and its work influences the local government officials responsible for the property tax in thousands of jurisdictions across the United States and internationally. The Department of Valuation and Taxation presents a variety of conferences, seminars, and courses for property tax professionals, and I have served as faculty for a number of these programs since the 1990s. I'm also involved in working directly with local tax practitioners and in research projects that will continue to challenge the conventional wisdom about the property tax.

LAND LINES: *What are some of your current projects?*

SALLY POWERS: One major project deals with a joint venture between the Lincoln Institute and the George Washington Institute of Public Policy to create a free, downloadable property tax database for all 50 U.S. states and the District of Columbia. The *Significant Features of the Property Tax* Web site was launched in June 2009, and the information is updated every year to keep current with changes in the legislation that regulates the property tax in each state.

We regularly expand the subject matter to be included, and have made the site a central access point for information about the property tax from a variety of federal, state, and scholarly sources. For example, the only nationwide study of effective tax rates is published by the Minnesota Taxpayers Association, and this publication is now available for downloading from the *Significant Features* site. The next topic we plan to organize for presentation on the Web site is the various forms of property classification for tax purposes.

LAND LINES: *Can you clarify what an effective tax rate and classification mean, and why they are important aspects of this database?*

SALLY POWERS: The property tax rate by itself does not explain much about the property tax burden in a particular community or provide any basis for comparison across jurisdictions. A high tax rate may simply reflect low property values, and a low tax rate may reflect very high values. Effective tax rates are calculated by comparing the amount of the property tax bill for a property to its market value, which may or may not be the same or even close to its assessed value. Effective tax rates, where they are available, thus make it possible to understand the impact of a tax bill intuitively and to make better informed cross-jurisdictional comparisons.

Classification of property is undertaken by many states, either legislatively or in the state's constitution, to identify property categories based on use, the most common uses being residential, commercial, and industrial. In some states the classifications are applied for identification and reporting purposes only. However, it is employed more frequently to tax favored classes at lower rates than other classes. The most favored classes are generally residential and agricultural uses.

LAND LINES: *Based on your research, how well is the property tax holding up as a primary local revenue source during the current recession?*

SALLY POWERS: There are two major components to a property tax bill: the property value and the tax rate, as discussed above. In states where local tax jurisdictions are not encumbered with extreme limits on tax rates, the property tax can be quite resilient, because when values decrease the tax rate may be increased. In addition, the value always represents an assessment as of a specific date prior to the issuance of the tax bill. It is not unusual for this assessment date to be a year and a half or more before the date of issuance of tax bills. This "assessment lag" gives local jurisdictions a cushion in times of rapidly changing markets, with time to plan for the

eventual change in the level of assessed values and to investigate other local revenue sources. To date, research on property tax revenues during the current downturn has borne out these features of the property tax.

LAND LINES: *It's clear that the American property tax is a complex affair. How does this compare to your experience in other countries?*

SALLY POWERS: International experience with the property tax varies greatly, depending on the maturity of the property tax system, the culture, and the legal underpinnings for the tax. The projects I worked on in Eastern Europe were introducing a market value based property tax. Political leaders and central and local public officials had no difficulty with the concept of market value. Valuation methods were uncomplicated and directly related to sales. A common theme in the U.S. and many other countries, however, is the desire to make the burden of the property tax smaller for residences than for businesses. Some of the proposed formulas to provide tax relief are extremely complicated, such as relating property value to household size and ages of household members.

LAND LINES: *How widespread is the property tax?*

SALLY POWERS: It is quite surprising how many countries assess some form of tax or fee on property or property rights. Another Lincoln Institute project I am working on is the African Tax Institute (ATI), a joint venture with the University of South Africa at Pretoria. More than ten research fellows at ATI have visited one or more of 38 countries to develop in-depth reports on the various forms of tax on property (Franzsen and Youngman 2009). Most of those reports and supplemental appendices are posted on the Lincoln Institute Web site as working papers. In every country studied the researchers found some sort of tax or fee on ownership or use of property. In many countries all land is owned by the government, but the rights to use the land are owned by individuals and companies that pay fees and taxes on their use rights.

In countries of the former Yugoslavia, for example, the property tax is a familiar concept. In the early 1990s, the Federal Republic of Yugoslavia established a privatization program that transferred ownership of government-owned apartment flats to individual owners. An annual tax was assessed on the owners, based on the characteristics of the property.

LAND LINES: *Can you describe more about your interest and experience in econometrics applied to property market data.*

SALLY POWERS: I was plunged into multiple regression analysis on my very first property tax job for the City of Boston in 1982. I was part of the team hired to use statistical analysis to develop models (formulas) that could be applied to property data to estimate market value. I was fortunate because the city hired some of the top experts in this emerging field to train us in these methods. Since then, both as an assessor and later as a consultant, I have continued to use econometric tools to estimate market value for property tax application.

It has been fascinating to participate in the increasing sophistication and effectiveness of CAMA (computer assisted mass appraisal) to generate AVMs (automated valuation models). The biggest leap in this technology takes advantage of GIS capabilities to analyze location and property value. I am looking into an econometric tool for CAMA application that analyzes data around median values rather than the mean. This is interesting because the current statistical standards for value accuracy and uniformity are calculated around the median because, compared to the mean, it measures average value with less bias from extremely high or low values.

LAND LINES: *Do you have any other observations about the Institute's work in the current volatile realm of property taxation?*

SALLY POWERS: As a visiting fellow at the Lincoln Institute, I have found it especially gratifying to see the increasing public interest in the *Significant Features of the Property Tax* database. The Web site has been cited by many scholars in the field of local pub-

lic finance, and the authors of two papers presented at recent Institute seminars used data from the site for their analyses.

Adding to its Web-based resources, the Lincoln Institute has produced more than 10 online courses on such diverse topics as property tax policy, modern valuation technologies, property tax reform in Massachusetts, and introduction of the property tax in transition economies. The IAAO (International Association of Assessing Officers), the leading membership organization for tax assessors and other property tax professionals, has recognized the value of these courses, and now its members can receive continuing education credit for taking them.

Finally, the Institute has inspired more economists to become interested in property tax valuation and equity issues. For example, economists from the University of Illinois and Florida State University are conducting studies of assessment equity that introduce contemporary econometric tools to both display and analyze patterns of overvaluation and undervaluation of property in assessing jurisdictions.

Visiting fellow Dan McMillen (2011), working with a rich data-set that includes the City of Chicago, will present his analysis and conclusions at the next annual conference of the IAAO. I will be on hand to help make his innovative findings accessible not only to the statistical analysts in the audience, but also to property tax assessors who are interested in improving values in their own jurisdictions. **L**

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McMillen, Daniel P. 2011. Assessment regressivity: A tale of two Illinois counties. *Land Lines* 23(1): 9-15. www.lincolninstitute.edu/pubs

Significant Features of the Property Tax. www.lincolninstitute.edu/subcenters/significant-features-property-tax

Regularization of Informal Settlements in Latin America

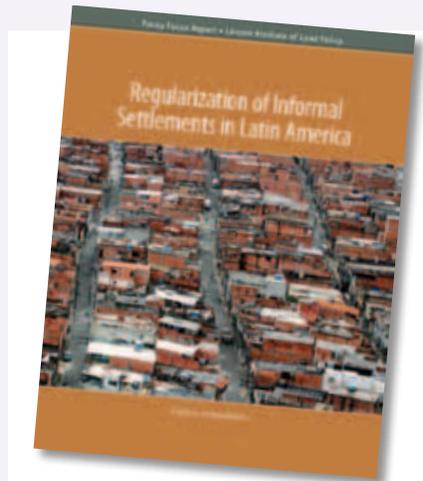
One out of four urban residents in Latin America lives in a dwelling that does not have a formal legal title, lacks essential public services such as water and sanitation, and occurs on environmentally vulnerable or public land. Whether built on private or public land, informal settlements are developed progressively over many years, and some have existed for decades.

Such settlements often become recognized legally as part of the regular development of the city—through either official actions or the accretion of rights over time. The definition of informality is imprecise and multidimensional, covering physical, socioeconomic, and legal aspects, yet it is widely accepted that informal development is widespread in large Latin American cities.

Informality is attributed to many causes, including low income levels, unrealistic urban planning and building regulations, a lack of serviced land and social housing, and a dysfunctional legal system. It generates large costs for residents, including insecurity of tenure, lack of public services, discrimination by others, environmental and health hazards, and inequitable civil rights. It also poses both high direct costs for local governments when they undertake upgrading programs and substantial indirect costs when they must cope with other impacts, such as public health, criminal violence, and related social problems.

Policies to regularize informal settlements have been attempted in most Latin American countries, but experience demonstrates that such programs need to be designed carefully to avoid either making conditions worse for the low-income residents the programs are intended to help or stimulating the development of new informal settlements. While the financial costs of these programs vary widely, residents of regularized areas rarely contribute property taxes or other payments to compensate for the costs. Overall, the lack of revenue associated with regularization has inhibited the scaling up of such programs.

Regularization programs follow two main paradigms, although both fall short



Regularization of Informal Settlements in Latin America

Edésio Fernandes

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of expectations. The first, exemplified by Peru, involves the narrow legalization of tenure through titling. This approach is inspired by Hernando de Soto's hypothesis that tenure security is a trigger for development, stimulating access to finance, economic activity, and residential upgrading. From 1996 to 2006 Peru issued over 1.5 million freehold titles at an average cost of \$64 per household. Evaluations indicate that tenure security had little impact on access to credit, yielded some investment in housing, and may have contributed to some poverty alleviation, but it did increase property values by about 25 percent, well in excess of the titling cost.

Brazil's broader regularization programs combine legal titling with the upgrading of public services, job creation, and community support structures. At \$3,500 to \$5,000 per household, these programs are much more costly than Peru's titling system, and Brazil has had more modest coverage. Ironically, service upgrading often occurs with little or no change in legal tenure status, although the number of titles is

increasing. The few evaluations that exist indicate that the increase in property values associated with upgrading exceeded its cost, as in Peru, albeit at a lower rate than in new urban developments.

Recommendations for improving regularization policy and specific programs must address the following issues:

1. Evaluate the performance of regularization programs based on the collection of both baseline data before program implementation and subsequent data on program costs and outcomes.
2. Customize policies and programs, because a single approach is unlikely to work well across all situations.
3. Use appropriate titling systems (freehold, leasehold, cooperatives, or communal ownership) to ensure the community's socioeconomic sustainability.
4. Seek the participation of both men and women to avoid building gender bias into the process and to increase its long-term effectiveness.
5. Make regularization more self-sustaining financially through property taxes or charges on urban infrastructure and service improvements to capture some of the resulting land value increment; at the same time, ensure equitable fiscal burdens on all segments of society.
6. Support more research and analysis to determine if the situation is improving or worsening in particular cities.

This report is part of the Institute's ongoing program of research, education, and publications by colleagues throughout Latin America and the world. Additional information is available at www.lincolninst.edu/aboutlincoln/latin-america-caribbean.asp.

ABOUT THE AUTHOR

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More than 720 working papers are currently available, including the results of Institute-sponsored research, course-related materials, and occasional reports or papers cosponsored with other organizations. Some papers by associates affiliated with the Institute's Latin America and China programs are also available in Spanish, Portuguese, or Chinese. Listed below are the papers that have been posted since March 2011 at www.lincolnst.edu.

United States Programs

Samuel Berlinski, Sebastian Galiani, and Laura Jaitman

Impact of Railways' Expansion on Spatial Population Patterns

Howard Chernick, Adam Langley, and Andrew Reschovsky

The Impact of the Great Recession and the Housing Crisis on the Financing of America's Largest Cities

Katherine Sierra

Adaptation to Climate Change in Developing Country Urban Deltas: Issues and Approaches

David Michael Vetter and Marcia Vetter
Could Land-based Financing Help Create Fiscal Space for Investment by Brazil's Municipalities?

Jamie Williams

Large Landscape Conservation: A View from the Field

Joan Youngman

TIF at a Turning Point: Defining Debt Down

Latin America Programs

Onesimo Flores Dewey

The Value of a Promise: Housing Price Impacts of Plans to Build Mass Transit in Ecatepec, Mexico

Paulo Sandroni

Urban Value Capture in São Paulo Using a Two-Part Approach: Created Land (Solo Criado) and Sale of Building Rights (Outorga Onerosa do Direito de Construir). An Analysis of the Impact of the Basic Coefficient of Land Use as a Tool of the 2002 Master Plan *(also available in Spanish)*

Captura de Mais Valias Urbanas em São Paulo através do binômio Solo Criado/Outorga Onerosa: Análise do impacto do coeficiente de aproveitamento básico como instrumento do Plano Diretor de 2002

Martín O. Smolka, and Claudia M. De Cesare

El impuesto predial y la propiedad informal: El desafío de las ciudades del Tercer Mundo

Lincoln Institute eBooks at Amazon's Kindle Store

The Lincoln Institute is now publishing selected titles as eBooks. They are available through Amazon's Kindle Store as part of an ongoing initiative to broaden the availability of publications across multiple platforms. "We seek to make our timely research available in a variety of formats, taking advantage of the advances in electronic publishing and the convenience of eReaders," said Gregory K. Ingram, president of the Lincoln Institute.

The first Lincoln Institute eBooks available for ordering at the Kindle Store are:

- *Working Across Boundaries: People, Nature, and Regions*, by Matthew McKinney and Shawn Johnson: a look at theory and practice in regional collaboration;
- *Municipal Revenues and Land Policies*, edited by Gregory K. Ingram and Yu-Hung Hong: a collection of papers presented at the 2009 Land Policy Conference on public finance; and
- *Climate Change and Land Policies*, edited by Gregory K. Ingram and Yu-Hung Hong: the proceedings of the 2010 Land Policy Conference on global warming and land use.

These publications can be ordered and read on Amazon's Kindle, as well as on the Apple iPad and other eReaders by downloading the free Kindle app. The display includes the original text, illustrations, charts, and tables, and allows navigation such as bookmarking and easy viewing of citations.

The next volume to be published as an eBook is *The Community Land Trust Reader*, edited by John Emmeus Davis. This collection of essays traces the past, present, and future of the community land trust movement. As part of this eBooks initiative, several additional existing books will be converted to the eBook format, and selected future titles will be published simultaneously as printed volumes and as eBooks.

All print editions of Lincoln Institute books and other publications continue to be available for ordering on our Web site, and nearly 30 policy focus reports and more than 720 working papers can be downloaded for free at www.lincolnst.edu/pubs.

FELLOWSHIP *programs*

2011–2012 C. Lowell Harriss Dissertation Fellows

The Lincoln Institute's C. Lowell Harriss Dissertation Fellowship Program assists Ph.D. students, primarily at U.S. universities, whose research complements the Institute's interests in land and tax policy. This program honors Professor Harriss (1912–2009) who taught economics at Columbia University and was a long-time member of the Lincoln Institute of Land Policy Board of Directors.

Administered through the departments of Valuation and Taxation and Planning and Urban Form, the program provides a link between the Institute's educational mission and its research objectives by supporting scholars early in their careers.

Dissertation fellowships have been awarded to the following students for the 2011–2012 academic year. Applications for the next cycle are due by March 1, 2012. For more information, see the Lincoln Institute Web site at www.lincolninst.edu/education/fellowships.asp.

Department of Valuation and Taxation

Il Hwan Chung
Department of Public Administration
Maxwell School of Syracuse University
Education Finance Reform, School Choice, and Residential Sorting

William M. Doerner
Department of Economics
Florida State University
The Effects of House Prices on Taxation and Property Valuation

Olha Krupa
School of Public and Environmental Affairs
Indiana University
An Analysis of Indiana Property Tax Reform: Equity and Cost Considerations

Lauren Lambie-Hanson
Department of Urban Studies and Planning
Massachusetts Institute of Technology
Foreclosure Resolution: Efficiency and Impacts of Asset Disposition

Christopher Palmer
Department of Economics
Massachusetts Institute of Technology
What's in a Neighborhood? The Local Effects of Housing Policy

Caroline E. Weber
Department of Economics
University of Michigan
Three Essays in Taxation

Department of Planning and Urban Form

Lauren N. Coyle
Department of Anthropology
University of Chicago
Dual Sovereignties in the Golden Twilight: Law, Land and Labor in Ghana

George Homsy
Department of City and Regional Planning
Cornell University
Sustainability in the Small City: Exploring Climate Change Innovation in Local Land Use Policy

Amy Joanne Lynch
Department of City and Regional Planning
University of Pennsylvania
Is it Good to be Green?: An Assessment of County Green Infrastructure Planning in Colorado, Florida, and Maryland

PROGRAM *calendar*

Courses and Conferences

The education programs listed here are offered as open enrollment courses for diverse audiences of elected and appointed officials, policy advisers and analysts, taxation and assessing officers, planning and development practitioners, business and community leaders, scholars and advanced students, and concerned citizens.

For more information about the agenda, faculty, and registration procedures, visit the Lincoln Institute Web site at www.lincolninst.edu/education/courses.asp.

Programs in Latin America

WEDNESDAY–FRIDAY, AUGUST 24–26
Buenos Aires, Argentina
First Latin American Congress on Urban Studies: Reflecting on the City, Changing the City
Martim Smolka, Lincoln Institute of Land Policy; Maria Cristina Cravino, Conurbano Institute, General Sarmiento National University, Buenos Aires, Argentina

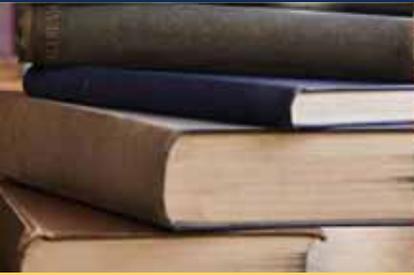
This congress will address research challenges in Latin America in the early twenty-first century, including conferences and panels with renowned experts, and contributions from researchers and academics. Content will be structured around five

central themes: the economy of Latin American cities; urban and regional economic development policies and specificities; planning, urbanism and urbanization processes; the dilemmas and challenges of environmental management in cities; current urban policy perspectives and challenges; and the territorialization of social issues and policies. For further information: http://www.ungs.edu.ar/estudios_urbanos

MONDAY–FRIDAY, OCTOBER 10–14
Montevideo, Uruguay
Urban Land Market Analysis
Martim Smolka and Ciro Biderman, Lincoln Institute of Land Policy

This course covers the main theories inspiring empirical modeling and hypothesis testing, methods of data gathering, and analysis related to land market performance indicators. Attention is given to the specificities of spatial analysis including cluster analysis and spatial econometrics. The course is designed to provide academic researchers and land policy practitioners with the theory and tools for understanding the dynamics of formal and informal urban land markets. Participants also examine issues associated with the impacts of land use regulations, as well as public urban infrastructure and services interventions.

What's New on the Web



Significant Features of the Property Tax

www.lincolninst.edu/subcenters/significant-features-property-tax

New materials and data have been added to Significant Features, one of 14 subcenters providing online resources on both practical land policy tools and extensive databases.

Significant Features presents data on the property tax in all 50 states and the District of Columbia. The Lincoln Institute of Land Policy and the George Washington Institute of Public Policy have established a partnership to provide information that can support public policy concerning the property tax, probably the most controversial tax in the United States. The first update to the database recently added 2007 and 2008 property tax data to the original set of 2006 data. The Web site also includes the following new features:

Links to Additional Tax Resources

TIF at a Turning Point: Defining Debt Down

Joan Youngman, senior fellow and chair of the Institute's Department of Valuation and Taxation, examines tax increment financing (TIF), the most important fiscal instrument for local development initiatives in this country. This paper was published in *State Tax Notes* on May 2, 2011 (Vol. 60, No. 5).

The Valuation of Federally Subsidized Housing: Ten Questions for the Property Tax

In this Lincoln Institute working paper, Joan Youngman examines the questions and implications raised by decades of judicial decisions on the appropriate treatment of these properties and includes an appendix with examples of cases and legislation addressing the taxation of subsidized rental housing in 40 states.

50-State Property Tax Comparison Study

This report by the Minnesota Taxpayers Association is the only analysis that calculates effective tax rates in all 50 states. Effective tax rates reflect the relationship between property taxes and the market value of individual properties by taking into account the effects of statutory tax provisions and local assessment practices.

Ask Our Property Tax Expert

Adam H. Langley is a research analyst at the Lincoln Institute and coauthor of the 2010 policy focus report, *Payments in Lieu of Taxes: Balancing Municipal and Nonprofit Interests*, which is available for free downloading on the Web site. He answers the question, "What are payments in lieu of taxes, and why are they so controversial?"

www.lincolninst.edu/resources

Land Lines

JULY 2011

2011–2012 Program

The Lincoln Institute's annual Program for 2011–2012 presents a comprehensive overview of the Institute's mission and its diverse programs for the new academic year. It includes department descriptions; courses, seminars, conferences, and online education programs; research, demonstration, and evaluation projects; publications and multimedia products; Web-based resources and tools; and lists of fellows and faculty.

The complete Program catalog will be posted on the Lincoln Institute Web site for free downloading in August. To request a print copy, contact help@lincolninst.edu.

