



## CITYSCAPES

A DAILY CHICAGO JOURNAL ABOUT THE BUILDINGS AND URBAN SPACES THAT SHAPE OUR LIVES

BY BLAIR KAMIN

April 20, 2010

### Ten years of green roofs in Chicago: Mayor Daley's green thumb and iron fist have produced impressive gains, but the movement remains in its infancy

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There's been so much hype about green roofs in Chicago that I went to the Willis Tower sky deck last week expecting to see grass, shrubs and trees covering the tops of most buildings downtown. What I saw instead was this: About 10 green roofs, including a test model on the Tower's 90th floor (left). It's tied down with steel ropes to keep Chicago's howling winds from blowing it to the sidewalk.

That view is revealing: Ten years after Mayor Richard Daley had a lush, green roof planted atop City Hall, Chicago is North America's undisputed leader in covering roofs with vegetation. Yet the green roof movement in Chicago remains in its infancy, not only in numbers but in design quality.



There should be more green roofs like second-floor roof garden at the PepsiCo office building at 555 W. Monroe St (left). It's open to the public as well as PepsiCo. employees who eat and exercise there. It has a swath of grass, tables and chairs, and four twirling wind turbines that are handsome enough to be kinetic sculpture. This green roof isn't an energy-saving toupee. It's integrated into the daily life of the city and its people.

"It's quiet there. You don't hear the traffic noise," said PepsiCo employee Shelley Ayres.

The approach of Earth Day on Thursday marks an opportune time to review the achievements — and the shortcomings — of Daley's vaunted push for green roofs. Proponents tout the roofs for good reason: They sop up rainwater, cool city air by absorbing less heat, cut energy costs, add to a roof's lifespan, provide wildlife habitat and are nicer to look down upon than black asphalt. They also cost more than a conventional roof — with the premium ranging from about \$15 to \$50 per square foot, depending on how intensively they're planted.



Statistics begin to tell the story of what's happened in Chicago since the 2000 start of the City Hall green roof (left), which features more than 100 plant species, including native prairie grasses. The city now boasts about 500 green roofs that are either finished or underway, according to Department of Environment spokesman Larry Merritt, and they cover 7 million square feet — roughly double the amount of floor space in the Willis Tower.

That sounds impressive until you realize that those 500 green roofs represent a little less than one-tenth of 1 percent of Chicago's more than half a million buildings. In Germany, experts say, 15 to 20 percent of the flat roofs in the entire country are green and the total is measured in billions of square feet. The reason: Local governments in Germany have put in place regulatory incentives for building green roofs, including a "rain tax," which charges property owners for impervious surfaces that lead to rainwater runoff and fill up local storm sewers.

"They're two decades ahead of the U.S.," says Steven Peck, president of Green Roofs for Healthy Cities, a

Toronto-based industry association that advocates for green roofs.

Uncommonground But Daley (left, in blue shirt and cap), who caught the green roof bug during a visit to Hamburg, Germany, in 1997, nonetheless gets credit for being a green roof visionary — and for backing the preferences of his green thumb with the power of his iron fist.

At his direction, Chicago adopted environmentally sensitive construction standards for public buildings, ensuring that new libraries, schools, police and fire stations would get the green building equivalent of the old Good Housekeeping Seal of Approval — certification from the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program.

The city mandate boosted construction of green roofs, as did a requirement that private projects getting city financial aid build planted roofs as well. In turn, the green roofs joined with the thousands of trees planted during Daley's reign — and mile after mile of landscaped medians — to remake Chicago's once-sagging Rust Belt image.



"It's a reframing of your same old city," said Chicago architect Doug Farr, who has made green design a hallmark of his practice.

But for all the city has done, it still has a long way to go, as a visit to several of the city's planted rooftops made clear:

--**They're not all created equal.** Media accounts of green roofs in Chicago invariably focus on the sprawling, lushly planted City Hall roof, or Millennium Park (left), which is built over working commuter railroad tracks and outfitted with grass and trees. These are the Rolls-Royces of the genre. More typical is a tiny green roof atop an Aldi supermarket at 4450 N. Broadway Ave., visible from the Chicago Transit Authority's Red Line. It resembles a postage stamp. Green roofs, it shows, can comply with the law without adding much beauty to the cityscape.



--**Some are woven into daily life; others are for show.** Take the green roof that adorns the showcase McDonald's (left) on Ontario Street. Putting a green roof atop this emblem of the energy-wasting car culture was like sticking a piece of lettuce atop a bacon double cheeseburger and calling it healthy. In contrast, the organic rooftop farm atop the Uncommon Ground restaurant at 1401 W. Devon Ave. (pictured above, with Daley present) is totally in sync with the restaurant and its embrace of the "locavore" philosophy of locally produced food. The roof has cedar planter boxes and trellises where rooftop farm director Dave Snyder grows a variety of veggies — among them tomatoes, carrots and peas — that wind up right on diners' plates.

--**Too few are accessible to the public.** The city's official tourism Web site lists just four green roofs that are open to visitors: Millennium Park, Soldier Field (where

parkland spreads over an underground parking garage), the PepsiCo rooftop garden and the Chicago Center for Green Technology at 445 N. Sacramento Blvd. True, not all buildings can admit the public to the rooftops because of security concerns. But the city should do more to encourage public access. If developers benefit from building a green roof, the citizens should benefit, too.



--**Green roofs make more sense on some types of buildings than others.** A green roof can spread out handsomely on a broad, low building like the Chicago Cultural Center or the top of a mid-rise office tower like 111 S. Wacker (left). But there's limited value to putting one high up on a supertall building like the Willis Tower, whose owners plan a comprehensive \$350 million energy retrofit. The world's tallest green roof might impress airplane passengers and helicopter pilots, but who else is going to look down on it? Making the outside walls of a skyscraper more energy-efficient is far more important than greening its top. After all, a skyscraper has far more wall area than roof area.

As Chicago looks forward to its next 10 years of green roofs, some fret that the city's supremacy is threatened.

Washington, D.C., was just behind Chicago in the last major survey of major metropolitan areas by Green Roofs for Healthy Cities. And it could surpass Chicago because President Barack Obama's stimulus package will spend millions of dollars for energy efficiency in federal buildings, which are concentrated in the capital. Toronto, for its part, passed a law last year requiring all new buildings with at least 2,000 meters (21,528 square feet) of floor area to cover part of their roofs with vegetation.

While it's true that quantity matters in green roofs — it is easier to cool off a city with 5,000 green roofs than with 500 — quality should matter just as much. The key is to weave the roofs in the texture of everyday life. Think of a building with a planted roof where you could take a break from your computer. Or a hospital where patients and staff could escape sterility. Or an urban farm where high-rise dwellers could grow their own vegetables. The potential for green roofs to blossom is limitless — if only we make them an integral part of the building art.



**Postscript:** Space did not allow me to mention the designers in the print version of this story, but the blog is another story. So here are credits for the roofs and buildings pictured in this story:

Willis Tower energy retrofit--Adrian Smith + Gordon Gill Architecture, Chicago.

PepsiCo roof--Original building design by Skidmore, Owings & Merrill of Chicago; additions by Bill Chin of Parachin Design Studios and Bil Becker of Aerotecture International, both of Chicago.

Chicago City Hall green roof--Conservation Design Forum of Elmhurst, Ill., David Yocca, senior partner.



Uncommon Ground restaurant certified organic roof farm--architecture by Peter Moser of Swiss Design Group, Chicago.

Millennium Park--Original plan by Skidmore, Owings & Merrill of Chicago, with numerous subsequent collaborators.

McDonald's on Ontario Street--Building design by McDonald's in-house architectural staff, Oak Brook, Ill. 111 S. Wacker Drive--Architecture by Goettsch Partners of Chicago.

(Finally, that's not me in the top photo of Willis Tower's roof. It's Andre Peci, the tower's security operations manager. Thanks to Tribune photographer Chris Walker and other Tribune staff photographers for their striking images.)

Posted at 06:29:56 PM

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## Comments



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"Chicago is North America's undisputed leader in covering roofs with vegetation."

Really? On a per-capita basis? On a percentage-of-buildings basis?

Daley has such an iron fist, so why are the rooftops of the three McCormick Place buildings not green?

BK: Chicago has ranked first in every single Green Roofs for Healthy Cities survey. In previous years, it was said to have more green roofs than all other American cities COMBINED.

Next question?

Oh yes--the McCormick Place west building IS green.

Posted by: MaryContrary | April 21, 2010 at 07:15 AM

Northeastern Illinois University's student environmental group proposed green roof installation on several building, all low and flat - ideal locations.

The idea got turned down.

BK: Who turned it down and why?

Posted by: Robert Kastigar | April 21, 2010 at 08:31 AM

Perhaps along with the green roofs, they can make a place for smokers to go so they are not all around the front doors of buildings. Place them on the down wind side of the roof so that others can enjoy the green roof without the smoke.

BK: Love it.

Posted by: Bewildered | April 21, 2010 at 10:31 AM

One of the best green roof applications I have seen in the city is at the 1800 Lofts project at 1800 W. Grace. These roof plantings were designed as part of the aesthetic rather than thrown on the roof to satisfy the Planning Department. Nice work by the design team!

Posted by: Toby44 | April 21, 2010 at 12:48 PM

Wal-Mart on the far west side has a green roof -- and a blacktop parking lot which covers 3.5X as much space. Whoops!

BK: That sounds like the Ontario Street McDonald's--a green symbol masking an un-green reality.

Posted by: [www.facebook.com/profile.php?id=879035108](http://www.facebook.com/profile.php?id=879035108) | April 21, 2010 at 12:53 PM

In order for vegetative to actually be green, you need to use native plants that don't require watering. Basically, that means weeds. Sod grass and most flowers take huge amounts of water to grow so you lose any environmental benefits.

Posted by: Tom | April 21, 2010 at 01:06 PM

OK, but are there any incentives for regular homeowners/condo associations to help defray the costs?? We are a small condo building (4 units) but with a relatively huge rooftop space which we'd LOVE to develop into a green roof... So far, cost has been the sole prohibitive factor.

Posted by: TJM | April 21, 2010 at 01:19 PM

Great article! Rush University Medical Center will soon have five green roofs. We already have two, one on top of our new Orthopedic Building and another over the loading dock. Once our new in-patient hospital building opens we'll have three more, two of which are designed as rooftop garden areas where patients and employees can relax outdoors. Green roofs are a win-win, lowering energy costs and improving healing. Check out the link below to see photos and video.

<http://rushnews.rush.edu/2010/04/07/green-transformation-green-roofs/>

Posted by: Kim Waterman, director of media relations, Rush University Medical Center | April 21, 2010 at 02:36 PM

Do the city colleges have green roofs? If not not, why not?

Posted by: gowster | April 21, 2010 at 02:51 PM

The Mayor may love green roofs on commercial buildings but he doesn't seem