

Greening a City

FROM THE TOP DOWN

SAM NEWBERG

Led by Mayor Daley, Chicago has been at the forefront of green development and is setting an example for private sector participation in achieving sustainable goals.

TO MANY CHICAGOANS, GREEN IS THE COLOR of the grass at Soldier Field. But across the Greater Chicago area, green development is catching on among government officials, the private sector, and the public at large. It started with beautification, moved to green roofs and buildings, and is expanding into land use and business decisions.

"In many ways, it was a 'perfect storm' for green design to get traction in Chicago," explains David Reynolds of the Chicago office of Earthtech, who was first deputy commissioner of Chicago's Department of the Environment (DOE) from 1996 to 2004. Reynolds is not the only one to marvel at how the city's image has been transformed in recent years. "Here's this city with an industrial, working-class, rust-belt reputation, and guess what, it is also green," says Michael Davidson, manager of the Chicago-based Campaign for Sensible Growth.

Green development has taken off in this Midwestern city for a variety of reasons. One is the strong architectural and planning tradition dating to Daniel Burnham, Louis Sullivan, Frank Lloyd Wright, and Ludwig Mies van der Rohe. Their legacy in many ways transcends both buildings and open space, especially in the case of Burnham and his vision for the public parks along Lake Michigan. Much more recently, Chicago has emerged as a leader in green roofs and buildings certified under the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) program. Local planners and architects are behind the creation of LEED for neighborhood development (LEED-ND), a system by which entire neighborhoods, rather than just buildings, are ranked according to their level of sustainability. Most signs, how-

ever point to one man as the driving force behind Chicago's place at the forefront of sustainable building: Mayor Richard M. Daley.

The Green Mayor

Most of the recent green development momentum in Chicago can be traced to Daley. His administration has brought the subject to the



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fore in three significant ways: he is marketing a green Chicago to the world, he is educating businesses and residents about a variety of green issues, and, most important, he is setting an example by building environmentally friendly municipal buildings and also providing incentives for the private sector to build green.

When Daley took office in 1989, he realized the city was removing more trees than it was planting. Understanding that trees and streetscaping not only improve the appearance of the city but also help clean the air, he began an ambitious beautification program. The city has since planted about 500,000 trees, with a goal to plant more



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and education." CCGT provides outreach and education, including construction and distribution of rain barrels to residents and presentation of educational classes for professionals. It has an in-house green resource center, which it hopes to greatly expand online with various partnerships nationwide. Among its most influential programs is Green Tech U, a certificate program for architects, engineers, interior designers, and businesses.

The building and site feature a geothermal heating system, solar panels, recycled materials, a green roof, bioswales to filter rainwater, and pervious surfaces to reduce runoff. Though CCGT is nationally renowned—and is one of just 24 LEED Platinum-certified buildings—some of the green elements used in its construction, such as plumbing fixtures and construction materials, have already become outdated since the building's opening five years ago. Because the structure serves as a green demonstration facility for the city, these dated elements and others will continually be replaced to further demonstrate best green practices. "If we are to grow, we need to adapt to the newest green technology," explains Bell.

While the streetscape beautification, the green roof at City Hall, and CCGT have all drawn kudos, Millennium Park may well be the biggest success so far. "Millennium Park is the best green roof ever," asserts Bell. Not only is it already an internationally known tourist attraction, but also it is, in fact, a green roof above a multilayered parking ramp and train station. The site even includes the Millennium Park bicycle station, a 300-space heated bicycle parking area, complete with repair and rental services.

Institutional Green

The success of City Hall's green roof and CCGT encouraged Daley to mandate that all new municipal buildings be LEED certified. He also instituted a green building permit process through which developers can receive an expe-

than 1 million. Reynolds indicates that Daley is a doer. "His style is to get out there in front of the private sector and pilot new ideas to generate local excitement," he says. Daley's beautification efforts have proven to be very popular among residents.

From that starting point, the city began to look more holistically at becoming sustainable. A significant event, now a part of Chicago folklore, was a 1990s trip Daley took to Europe during which he learned about green roofs and the impact they have in reducing urban heat islands and mitigating runoff. He applied this thinking regarding green development to his city. His trip coincided with a period of deferred maintenance by local utilities that threatened rolling blackouts in the Chicago area, so the need to conserve energy provided all the more reason to consider sustainable solutions.

Daley decided the Chicago City Hall would be the location of the city's first green roof. Ironically, it was illegal at the time under the existing code to build a green roof on the structure. The code was changed, and City Hall's green roof was completed in 2001, attracting international attention. "The green roof on City Hall was one of those things that was a visual icon the public could see and understand very quickly," says John Montgomery, program coordinator of green buildings for the Public Building Commission of Chicago.

Indeed, the idea has caught on, and numerous green roofs have followed, many in the area of downtown Chicago known as the Loop. Davidson remarks that the best place to see the spread of green roofs is from above. "Go to the top of the Sears Tower and look down, and you can see countless green roofs on high rises," he says. "It is beautiful." The city currently has 2.75 million square feet (255,000 sq m) of green roofs in some stage of development, including four on recently built Target stores throughout the city.

The perfect storm for green development began to take shape around the time City Hall's green roof was built. Daley was well into his beautification program and had a pioneering green roof located in a high-profile location. He was also faced with the need to conserve energy throughout Chicago, so he was looking for ways to make Chicago even greener.

Around the same time, Chicago was forced to deal with a major brownfield cleanup on the city's west side. The DOE was willing to develop a LEED-certified building on the site. The project that resulted was the LEED Platinum-certified Chicago Center for Green Technology (CCGT), which opened in 2002.

CCGT is a vehicle for the DOE to educate people who live and work in Chicago. "Our mission is to advance green homes and workplaces," says Stephen Bell, director of CCGT. "We do that primarily through demonstration

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dited building permit or have a portion of consultant fees waived if the project includes one or more items from a green menu, such as construction of a green roof or reliance on a renewable energy source. "Our goal is to issue a permit in less than six weeks," says Erik Olsen, green projects administrator with the department. "Of course, there are projects that take longer, but a lot have met the six-week goal."

Sadhu Johnston, appointed commissioner of the environment by Daley in 2005, oversees the DOE's many programs. A major element required to achieve the goals put forth by the mayor and DOE is to seed various departments throughout city hall with key environmental staff members. "The mayor's vision is to lead by example," says Johnston. "Having a team of green experts in each department is absolutely critical."

The Department of Planning and Development, the Public Building Commission of Chicago, and the Department of Construction and Permits, for example, each have a director-level staff member who understands both his or her own department and green development. And they talk to each other—important in breaking down barriers between departments. "We can talk until we're blue in the face to a department, but if we don't understand the permitting process, for example, we can't make changes," says Brendan Daley, deputy commissioner for DOE.

In 2004, the city created the Chicago Standard, requiring every new municipal building to be LEED certified. According to Montgomery, Gold certification is the goal, and Silver is acceptable. So far, a half dozen new buildings, including schools, police stations, and fire stations, have been certified, and several more are in the pipeline.

Construction of green roofs in the private sector is now encouraged by the planning department in two ways: a grant program provides a 50 percent match for green roofs on existing buildings in the Loop, and projects that receive financial assistance from the city are required to either be Energy Star certified or have a green roof. This represents a shift in city priorities, says Michael Berkshire, green projects administrator for the Department of Planning and Development. "Before,

Going Green at the Neighborhood Level

FOR SEVERAL YEARS, THE U.S. GREEN BUILDING COUNCIL'S (USGBC) LEADERSHIP in Energy and Environmental Design (LEED) program has used a rating system for various types of buildings to measure sustainability and environmental friendliness. The USGBC, in partnership with the Congress for the New Urbanism (CNU) and the National Resources Defense Council (NRDC), with assistance from the Urban Land Institute (ULI), has now created LEED for Neighborhood Development (LEED-ND) to rate entire communities on their level of sustainability. LEED-ND acknowledges that while about one-third of greenhouse gas emissions come from buildings, another third is generated in transporting people and goods between buildings. Therefore, sustainable development must include both buildings and their surrounding communities.

A core committee was formed in 2004 to create the LEED-ND rating system—like other LEED programs, a series of credits and prerequisites. Where LEED-ND differs is that it rates entire developments or communities according to location efficiency, environmental preservation, and compact, complete, and connected neighborhoods, as well as many of the building-specific aspects already evaluated under other LEED rating systems. Prerequisites include transportation and infrastructure efficiency; species, parkland, farmland, and wetland protection; compact development; and a mix of uses. Credits can be achieved through a wide variety of means, including brownfield remediation, energy efficiency, affordable housing, green buildings, managing/treating on-site stormwater runoff, and walkability.

The LEED-ND pilot program was launched this February and will continue through the year. It will include up to 120 projects in all phases of development, from preentitlement and planning to full buildout. People or organizations interested in having a project considered for the pilot can download an expression of interest form and pilot project checklist, available at www.cnu.org, then E-mail the completed forms to nd@committees.usgbc.org by April 6. The postpilot program comment period will begin in 2008, and 2009 is the target for the official launch.

The goal of LEED-ND is to be a private sector-driven means of achieving sustainable development by looking at a project holistically and considering buildings within their surrounding context. LEED-ND could well have far-reaching impacts for the future of environmentally friendly development.—S.N.

some of the guidelines were beautification oriented; now we optimize a building's performance," he says.

The Private Sector Responds

The city's efforts in the arena of sustainable building raise the bar for the private sector, Reynolds says. "They position the mayor to be able to say to the private sector, 'Look, if we can do these things in the public sector, surely you can do them in the private sector.'"

Johnston believes the private sector is following city hall's lead. "We're seeing a significant uptick in [green efforts by] the private sector," he says. Still, Montgomery thinks the city is ahead of the curve to some degree. "I think that while we are moving along quickly,

we are pulling along the private sector." Doug Farr, founding principal of Chicago-based Farr Associates, an architecture and planning firm with a focus on sustainability, agrees. "The architects would not be doing this if the mayor didn't feel it was important."

As an example of the progress being made, the green building permits program issued 19 green permits in 2005, 71 in 2006, and expects to issue more than 100 this year. Numerous LEED-certified buildings have been built or are under construction in Chicago, many of them in the Loop.

Kevin Pierce, a sustainability consultant with his recently created Chicago-based firm Emergency Picnic, is encouraged by the progress with LEED. "LEED has achieved a



City Hall's green roof has inspired numerous followers. The city currently has 2.75 million square feet (255,000 sq m) of green roofs in some stage of development.

3 percent market penetration in just a few years," he says. "It's quite amazing."

A project called the Green Exchange, developed by Chicago-based Baum Development, is demonstrating how the private sector can fuel the green building movement. A 250,000-square-foot (23,226-sq-m) facility, closed by the Frederick Cooper Lamp Company in 2005, is being transformed into green business incubator space with the support of Daley and local alderman Manuel (Manny) Flores.

Not only are the developers pursuing LEED certification for the Green Exchange, but the facility also will house environmentally friendly businesses, including an eco-friendly printer, a green building supply company, and an organic café/restaurant. To encourage alternative transportation, a car sharing program will be based at the Green Exchange and a bike shop will be a tenant.

"The philosophy behind Green Exchange is to broaden the green marketplace," explains David Baum of Baum Realty, project developer. "Our hope is to provide a convenient venue for customers to find valuable products and services that are also environmentally responsible."

Retail space will occupy the first floor fronting Diversey Avenue, and a combination of office/retail/showroom space and work/live space will be located throughout the remainder of the three-story building. The building, which will be ready for occupation by the end of this year, is marketing space that can be subdivided into areas ranging from 1,000 to 60,000 square feet (93 to 5,575 sq m).

Another way sustainable development is being addressed is through LEED-ND, a rating system that addresses land use as well as buildings. The USGBC, in partnership with the National Resources Defense Council (NRDC)

and the Chicago-based Congress for the New Urbanism (CNU), with assistance from the Urban Land Institute (ULI), has created LEED-ND to rate development projects on their sustainability from a neighborhood perspective.

"LEED-ND is a good opportunity, and in many ways is a Chicago product," says Johnston. With CNU as one of the three partners and Farr serving as chair of the core committee, much of the push behind the creation of LEED-ND has, indeed, come out of Chicago.

LEED-ND certification has prerequisites for transit access, density, mix of uses, and open-space protection—all practices that are environmentally friendly one way or another and that can reduce resource use above and beyond what a LEED building alone can achieve. LEED-ND is to be pilot-tested this year (see sidebar, facing page), and its creators hope it will be met with market enthusiasm similar to that with which other LEED programs were greeted.

Davidson believes LEED-ND will have traction. Chicago suburb Aurora is considering implementing it as a standard for all city development, he says, and one of his goals with the Campaign for Sensible Growth is to create LEED-ND incentives at the state level.

Chicago's Green Future

Although better known for its rail yards, stockyards, and blue-collar work ethic, Chicago is emerging as a city increasingly aware of sustainability. "You hear about other places like Austin or Portland that have a green-minded populous," says Olsen. "We do not really have a green-minded populous. We are not a granola town." DOE's Daley agrees. "We have a populous that may not regard themselves as green minded, but they know it is the right thing to do."

As for the future, Pierce believes that green

buildings alone are not enough to have a significant effect on the impacts of global warming. "We can't achieve that by just doing projects" he says. "More than 50 percent of LEED buildings are Silver or less. Getting LEED Silver does not require any reduction in energy use; hence, there is little impact on global warming from LEED. It is our day-to-day activities that have the biggest impact. Sustainable practices apply in every industry and activity."

Although there is a lot of work to do, Chicago seems to be headed in the right direction, due in large part to the mayor's leadership. Daley understands the need to beautify the city, reduce pollution, and cut use of resources, and also knows the private sector potential of green development and green industries. The number of LEED buildings, the LEED-ND program, and projects such as the Green Exchange seem to indicate the private sector is on board as well.

Like CCGT, the Campaign for Sensible Growth emphasizes advocacy, policy, education, outreach, and technical assistance, but with a regional focus on land use planning. "You have to do all those things at the same time to make it work," says Davidson.

Daley's huge PR campaign is one of the reasons the work of the city is so well known. Not only is Chicago on the map as a green city, but also the development industry, business community, and public at large are catching on. "We are at a tipping point, and there is a critical mass where the public actually wants it," says Bell.

Reynolds thinks green development will simply become mainstream. "As far as the future of green development in Chicago, I see it becoming more and more routine and less and less special," he says. "Someday I hope no one will know what green design is in the city because it's just a normal part of doing business." **U**

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