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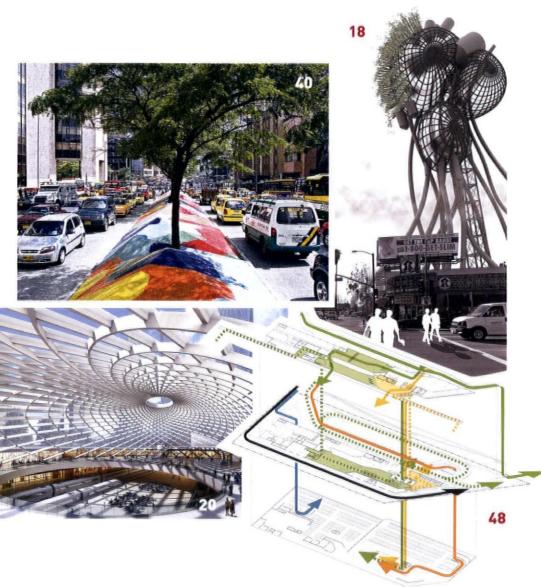
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DEPARTMENTS

- 8 EVENTS
- **10 EDITOR'S NOTE**
- 12 SHOWROOM Attention-grabbing hardware
- 14 P.O.V. Inspiring possibilities for the L.A. River
- 16 GREEN WORKS The grid is smartening up
- **18 MAKING THE GRADE** A Woodbury student's hydroponic vision
- 20 WORKBOOK Infrastructure projects keep us connected
- **48 UNBUILT** HMC Architects' inviting port in Taiwan

FEATURES

- **34 THE ART OF INFRASTRUCTURE** Architects and engineers find a balance on demanding projects BY JACK SKELLEY
- 40 MEDELLIN RISING Reviving a Colombian town with innovative infrastructural systems BY MICHAEL WEBB

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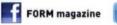
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FORM EVENTS

Raise a Glass FORM celebrates its Designing for the Senses issue

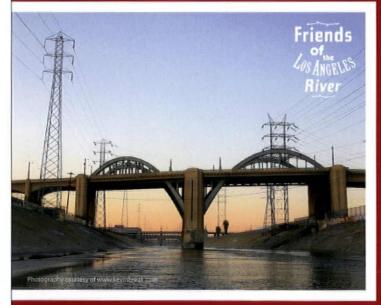
Seven Grand in downtown Los Angeles was the scene of FORM's latest event, co-hosted by 213 Ventures and Kelly Architects. The festive crowd sipped premium whiskey and specialty drinks at the historic bar, which was designed by George Kelly of Kelly Architects from the bones of the landmark Brock & Co. Jewelers building. Kelly provided the evening's highlight with a lively presentation and discussion on bar and lounge design. Water was supplied by AQUAOVO, and industry partner Architecture for Humanity was also in attendance.







INFRASTRUCTURE + WILL box Angeles, CA 90017



Come celebrate the Infrastructure issue and learn more about Friends of the Los Angeles River.

The discussion panel will explore infrastructure, focusing on several examples, including FoLAR's Piggyback Yard Conceptual Master Plan created with the PBy Collaborative Design Group (Chee Salette Architecture Office, Mia Lehrer + Associates, Michael Maltzan Architecture, and Perkins+Will).

Please RSVP to rsvp@FORMmag.net Include name, title, company, phone and email.

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EDITOR'S NOTE

There may have been a time when the word "infrastructure" didn't come up very often in design circles. That time is over. More and more firms seem to be involving themselves in projects around the world dealing with transportation issues, civic buildings and work that has a real impact

on people's daily lives and livelihoods. And as architects and designers bring their talents to these types of projects, the end results are speaking for themselves.

In this issue, we begin to look at how designers are transforming the urban landscape by bringing an aesthetic eye to everything from a Hollywood metro stop to the master plan of a river corridor in China (page 20). Michael Webb shows us how a new-and-improved infrastructure in Medellin, Colombia, is changing the town and its inhabitants in inspiring ways (page 40). In speaking with both architects and engineers, Jack Skelley explores the push-and-pull dynamic of how the disciplines work together on these imposing, multi-layered projects (page 34). The Friends of the Los Angeles



River cofounder, Lewis MacAdams, talks of his plans to reinvigorate L.A.'s "invisible" river—and the steps the group is taking to make that happen (page 14). We're also excited to present projects that might not be heading into construction, but that have innovative ideas worth sharing. A Woodbury University student describes his vision of a futuristic infrastructure for the San Fernando Valley (page 18), while HMC Architects unveils their shimmering design for a Taiwanese port (page 48). The global nature of these designs, and the breadth of their sensibilities, points to a promising future, where we're all better connected.

Carentin

Caren Kurlander Editor in Chief

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SUN VALLEY BRONZE

The **Circles Collection** entry set from Sun Valley Bronze is handcrafted in Idaho from 95% pre-consumer recycled bronze and can be used to earn LEED MR credits. The exterior piece is available in six finishes, including satin white bronze, and measures $2\frac{1}{2}$ "w x 18"h. Prices start at \$841. sunvalleybronze.com

ROCKY MOUNTAIN HARDWARE

Furniture designer Ted Boerner brings a modern, sculptural aesthetic to his new line for Rocky Mountain Hardware. All 27 designs are cast in recycled, art-grade bronze and available in nine finishes. The **Shift** pendant, shown in silicon bronze with a rust patina, sells for \$129 and measures 1%"w x 2 %"h. rockymountainhardware.com

ZIETTA CLARA 🛷

Stacie Isabella Turk designs glass that is meant to be touched, not put on display. Zietta Clara doorknobs are hand-sculpted of solid blown-glass, creating unique interior accents. The \$395 **Noodle** knob comes in wine or blue hues and has a 3" diameter, ziettaclara.com

VALLI & VALLI

The **E 1024 Serie Bess** hook was conceived by New York-based designer Yoshimi Kono for Valli & Valli. Made from solid brass, the pared-down form, with dimensions reaching $3"w \times 4\%$ "h, is priced at \$173 in a satin chrome finish. vallivalli-us.com



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Down by the River

Lewis MacAdams, cofounder of Friends of the Los Angeles River, tells of the organization's big strides and even bigger plans

Friends of the Los Angeles River (FoLAR) is celebrating its 25th anniversary this year. What are some of the organization's biggest successes?

I think FoLAR's biggest accomplishment has been to make the invisible river visible again. When we started, the river wasn't even on maps anymore. In more tangible ways, we organized and lead an immense coalition that fought to win the Cornfield and the Taylor Yards. They were railroad yards, which would have become millions of square feet of warehouses.

And what are they now?

They're state parks.

Tell me about the Central City Initiative.

It's a major focus of FoLAR and involves several different things. It's the struggle to create a better design for the 6th Street Bridge, which has to be replaced because it has what people call "concrete cancer." And as well meaning as the Bureau of Engineering has been, I think that the design they've come up with is a pallid imitation of the original. FoLAR has been working with the AIA, ULI and the Downtown Neighborhood Council to call for an international design competition.

What's stopping that competition from happening?

Money. A solid competition costs anywhere from \$300,000 to \$400,000, but it's something that the river needs to happen.

What are the other aspects of the initiative?

High-speed rail is moving in the direction of putting tracks underground rather than going through urban areas. That's obviously going to cost more, but in the long run it's going to be paid back in healthy neighborhoods along the river. We want to see the high-speed rail underground from Union Station all the way out to the 2 freeway.

What else does the initiative involve?

The other main issue is the Piggyback Yard. That's a 125-acre railyard across the river from Union Station. It's the last active railyard in the city of Los Angeles. We've put together an astonishingly talented team of people, all working pro bono—from Perkins + Will, Chee Salette, Michael Maltzan, Mia Lehrer and a number of others—that came up with a post-industrial vision for the yard.

Is the property for sale?

When we were doing the Cornfield and the Taylor Yards battles, the railroads were saying constantly that the yards were not for sale, and then they were. That land was bought for about \$800,000 an acre. At that price, we're probably looking at \$100 million dollars to buy the Piggyback Yard.

Are there other urban rivers that you look to as models?

L.A. is so complicated and because the government issues are so complex, it's behind a lot of cities that have been restoring rivers. We're just right at the beginning, and the economic downturn gives us an opportunity to plan and envision.

So the recession has been a positive thing?

If this had been boom times, there would be no way Mia Lehrer or Michael Maltzan or the others would have been able to dedicate this amount of time to a project that is truly piein-the-sky. But they did, and the city will be much the richer for it.

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-Interview by Caren Kurlander

To see a video of FoLAR chairman of the board of directors, Alex Ward, AIA, LEED GA, principal with LXW Design, discussing the 6th Street Bridge and other L.A. River issues, visit FORMmag.net.



The Ritz-Carlton Hotel & Residences and JW Marriott at L.A. LIVE

The first new tower in Los Angeles in 20 years anchors L.A. LIVE, a premier setting for professional sports, headline entertainment, and international conferences and conventions. The 54story tower caps a decade-long effort by Anschutz Entertainment Group (AEG) to realize its vision. The tower and podium add two leading hospitality brands, and an array of 24/7 attractions and amenities. The LEED Silver Certified tower combines a lighter structure with an innovative facade, which provides needed transparency while meeting California energy regulations. Along with the tower, Gensler designed the JW Marriott's banquet and conference center, the Club Nokia live-performance venue, and the 14-screen Regal Cinemas Cineplex.

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GREEN WORKS

Wise Up 🖗

CALIFORNIA NOW MANDATES THAT 33% OF ITS energy come from renewable resources by 2020. To do this, utilities will need to work smarter, not harder. One way this approach is being implemented is with new smart grid technologies. A significant catalyst toward fueling this direction was the more than \$4 billion allocated in grants by President Obama in 2009, as part of the American Recovery and Reinvestment Act (ARRA). Glendale Water and Power (GWP) and Burbank Water and Power (BWP) received \$20,000,000 each from this sum and are beginning to move forward with updating and transforming the Southern California electrical grid.

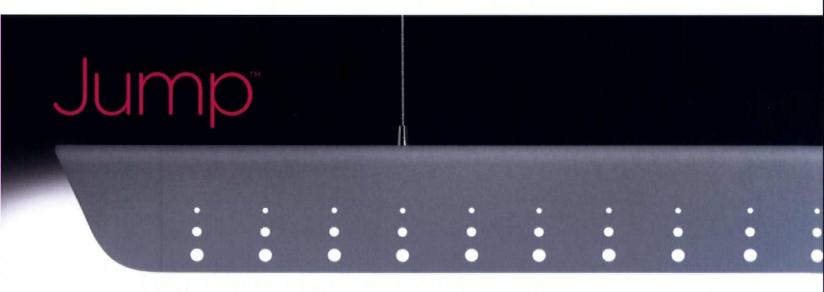
But what is a smart grid exactly? "A smart grid is an electric utility grid that is resilient, flexible, stable, self-repairing, reliable and secure," says Dr. Rajit Gadh, director of the

How the grid is getting smarter

UCLA Smart Grid Energy Research Center (SMERC) and professor in the Henry Samueli School of Engineering and Applied Science. "It is anticipated that this would be possible through the infusion of advanced technologies, such as wireless and mobile communications, internet, advanced computing and software and state-of-the-art sensing/ monitoring and control."

The utilities goals for moving toward a smart grid include delivering more renewable energy into the electrical supply, avoiding large-scale power outages and putting more information and control into the hands of the consumer. Smart meters, the first step in moving to a smart grid, will help with the latter. "These meters potentially provide the utility and consumer the ability to monitor energy usage in real-time," says Gadh. This ability could lead to more refined pricing models, such as time-of-day pricing. Once the meters and systems are fully integrated, the smart grid, according to GWP, will allow distributed renewable generation (such as solar panels on houses feeding into the grid), the integration of electric vehicles and demand-response programs to ward off system failure during times of high loading.

This digital overlay will also have an impact on the built environment. "The smart grid calls for the robust integration of generation, transmission, distribution, smart meters, building management systems, home-area networks and end-use devices," says Gregg D. Ander, FAIA, chief architect with Southern California Edison (SCE). "As these technologies and strategies become integrated, building owners, utilities, independent system



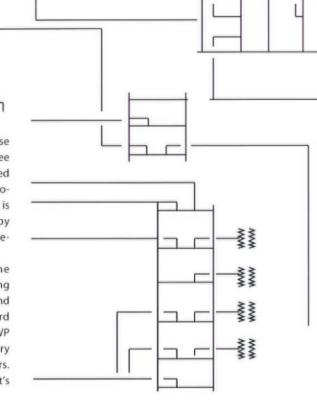
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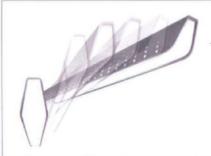
operators or aggregators will be able to take advantage of these systems to respond to price signals, reliability issues and carbon reduction opportunities." Special attention would also need to be paid as new buildings go up, whether it's anticipating higher power requirements in garages meant for electric vehicles or integrating, in advance, rooftop solar panels into the system. "For a building to be truly smart," says Gadh, "a complete rethinking of the architecture issues is required, along with the need for substantial research on how the various systems should work with each other."

SCE also anticipates the changing of building codes. "Codes and/or standards are being developed to address new highperformance building principles, which incorporate the end-to-end vision of the smart grid," says Ander. "Examples of these activities include the development of ZigBee Smart Energy Profile (SEP), Open Automated Demand Response (Open ADR) and photovoltaic inverter performance criteria." LEED is also recognizing this new direction by adopting credits for demand responseenabling technologies.

While just gaining momentum, the smart grid movement is actively pursuing its endgame of creating a more efficient and eco-friendly power grid. "This is a forward step for our utility," says Craig Kuennen, GWP smart grid project sponsor. "Our industry hasn't changed much in the last 100 years. Technology is rapidly changing, and now it's changing our industry."

-Caren Kurlander





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MAKING THE GRADE

ASSIGNMENT:

Study the city of Reseda and create an urban design intervention that utilizes strategic planning as well as a guerrilla approach to urbanism.

STUDENT: Cody James Glen

school: Woodbury University

MAJOR: Architecture

ADVISORS: Dr. Paulette Singley and Jeanine Centuori

PROJECT TITLE: Hydroponic Growbots: Parasitic Urbanism in San Fernando Valley

PROJECT DESCRIPTION: Hydroponic Growbots attempts to utilize the biological relationships and physical morphologies of the parasite to host relationship. The Growbot—a new building typology designed to introduce agriculture into an urban setting—has tendrils to feed on the host city, which would produce byproducts beneficial to both organisms, while encouraging growth in the Growbot. The successful model would then be reproduced; eventually creating a new society that would feed on the decay of the old infrastructure.

INSPIRATION: This project emerged through addressing the question: What does urban decay mean exactly? Can decay be a good thing?

ARCHITECTURE HEROES: Enric Miralles, Thom Mayne, Tom Wiscombe, Archigram, Lebbeus Woods, Calatrava and author William Gibson, who is not an architect, but inspiring and provocative nevertheless.

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"It is not the right angle that attracts me, Nor the straight line, hard and inflexible, Created by man. What attracts me are free and sensual curves."

- Oscar Niemeyer, architect

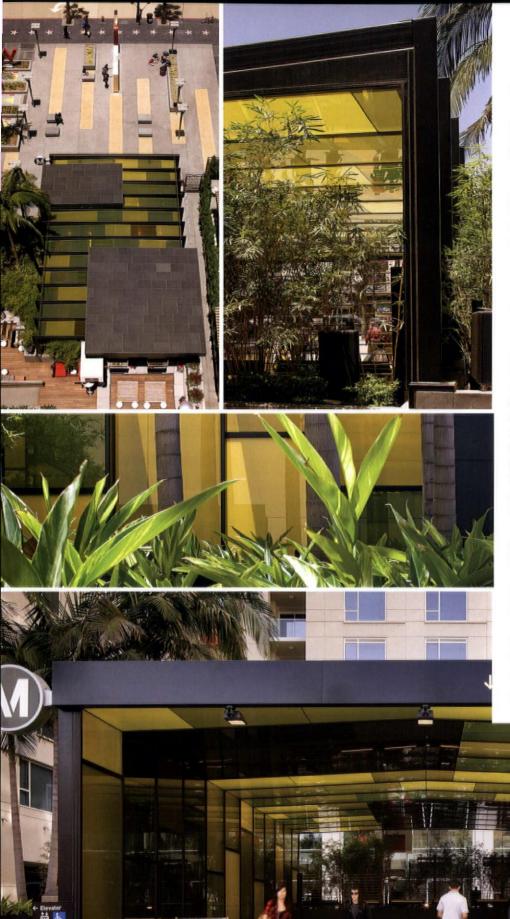
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WORKBOOK

Supporting Players

In large and small ways, design is keeping us connected



Hollywood & Vine Metro Portal and Plaza

Location: Hollywood, CA Designer: Rios Clementi Hale Studios Website: rchstudios.com

When charged with designing a new portal and surrounding plaza for the Metro stop at Hollywood Boulevard and Vine Street, Rios Clementi Hale Studios found all the inspiration they needed from the legendary Los Angeles corner. The memorable design was developed to "link Hollywood's iconic past to its revitalized present," says principal Frank Clementi, AIA, AIGA, while "creating an environment that would satisfy the diverse groups converging there."

As the diverse groups include commuters on the Metro Red Line, visitors to the adjacent W Hollywood Hotel and Residences and stargazers along Hollywood Boulevard, the firm worked to achieve a cohesive design that would accommodate its varied uses. "It was very important to us that the space allow optimal way-finding and circulation without creating hierarchical segregation," says Clementi. To help direct people through the plaza, yellow terrazzo bands—in a nod to the cinematic yellow brick road lead to the new portal, while ruby-colored glassaggregate concrete flows from the sidewalk to the W's front door, giving guests the red-carpet treatment.

The portal canopy plays off the black granite used in the historic Pantages Theater, which sits directly across the street and falls squarely in the sightlines of riders coming up the subway's escalators. Inside the portal, glass panels shift between gold, honey and amber hues in varying degrees of transparency. "The various colors and transparencies are arranged randomly, which allows for the unexpected juxtaposition of reflected virtual images with transparent views," says Clementi.

Photography by Tom Bonner

Jackson Hole Airport

Location: Jackson, WY Designer: Gensler Website: gensler.com

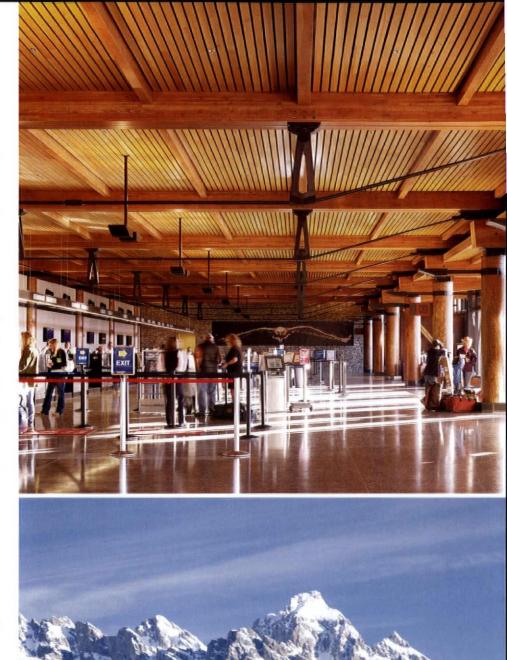
In beginning the renovation and expansion of the Jackson Hole airport, the architects at Gensler had a clear goal in mind: to turn the existing non-descript building into a structure that would honor its setting within Wyoming's Grand Teton National Park. "It was a very small, 1970s building," Jennifer Johnson, AIA, LEED AP, director of aviation and transportation, says of the original wood-frame structure. "It had an unclear identity and was very introverted."

The new design, which added 60,000 square feet and is slated to be certified LEED silver, corrects those flaws by speaking directly to the region. Gensler, who worked with local firm Carney Logan Burke Architects on the project, sheathed a new east-facing entry in glazing, and designed a canted overhang to reach out into the landscape. Weathered-steel clads the entry portals, which lead to an expansive lobby and ticket hall.

As the only U.S. airport to be located within a national park, there were strict guidelines to follow, including an eighteen-foot height limit. To accommodate this, a steel-and-wood queen-post tension system was implemented for maximum interior volume. Polished concrete floors offset a ceiling crafted of shiplap and open-plank stained ash, recalling the region's old barns. To disguise the new baggage handling section, the architects devised a 300-foot-long stone wall, echoing the Teton peaks and adding a rich layer of texture.

"Airports have to be efficient, there's no denying that," explains Johnson, "but there's no reason why, if you have a gateway to your city or to your country, that it can't be impressive. It needs to be durable, it needs to have good circulation, and it needs to be inspiring. Why else do you travel except to be inspired?"

Photography by Matthew Millman



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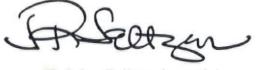












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LA Metro Division 13 Bus Maintenance and Operations Facility Location: Los Angeles, CA

Designer: RNL Website: rnldesign.com

"Public and infrastructure projects represent a commitment by the government to the people they represent," says Ken Anderson, AIA, LEED AP, senior associate with RNL. "The idea that good architecture needs to be reflected in our public and civic facilities is critical for sustaining healthy communities." This view is reflected in RNL's design of a new bus maintenance and operations facility to be built in downtown Los Angeles. The multi-functional building, which will wrap around an existing 20-year-old building, will be equipped with a 19-bay maintenance facility, a three-story parking garage for up to 200 buses and an operations and transportation building for over 300 employees.

The building's utilitarian nature combined with the highly visible public site pushed the RNL team to come up with clever design solutions. The designers gave the façade that will run along Vignes Street a pedestrian scale, with a landscaped urban plaza meant to engage the community. The operations building will stand adjacent to the plaza, and will shield the parking garage and maintenance areas. Along Cesar E. Chavez Avenue, photovoltaic panels mounted on the facade will screen bus parking and circulation ramps during the day and become illuminated at night.

Division 13 is pursuing a LEED NC Gold rating and will boast many sustainable features, including shade structures, natural ventilation, a 275,000gallon underground storm water retention tank and a green roof garden that will be accessible to Metro employees.

Renderings courtesy of RNL - Trent Cito, RLA & Akiko Okabe



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June 13–15

The Merchandise Mart Chicago





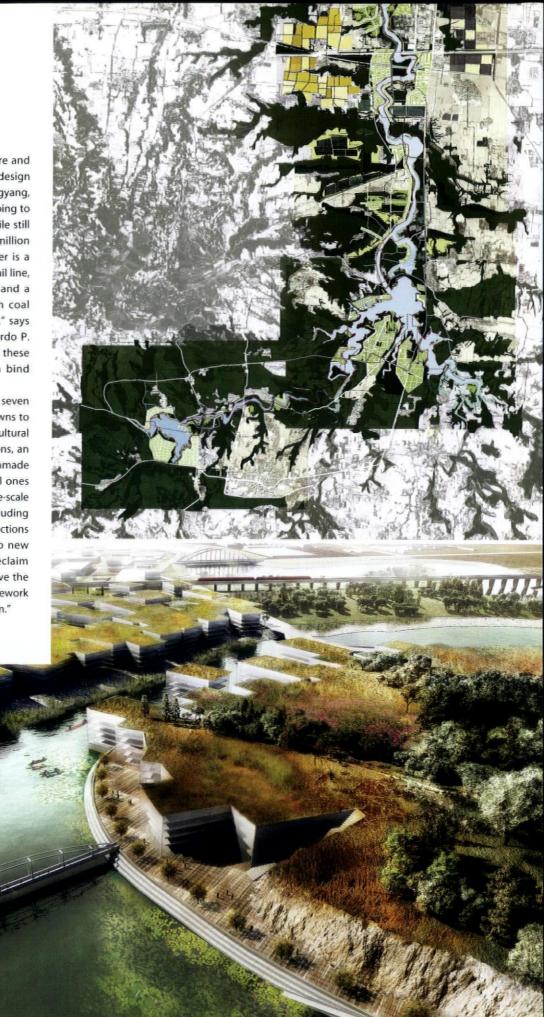
Suo River Corridor

Location: Xingyang, China Designer: SWA Website: swagroup.com

SWA, specializing in landscape architecture and urban planning, devised a master plan to redesign and re-engineer the Suo River corridor in Xingyang, China. The massive undertaking involves helping to reinstate sustainable natural ecosystems, while still serving the needs of the area's nearly one million residents. "The entire watershed of the river is a composite of freeways, a future high-speed rail line, reservoirs, wastewater treatment facilities and a drainage-way for groundwater freed from coal mining operations in the upper watershed," says SWA president and managing principal, Gerdo P. Aquino, ASLA. "Our approach is to integrate these infrastructures with a landscape that can bind everything together."

The 22-mile-long river will be divided into seven distinct zones, which will flow from resort towns to dense urban areas to a new university to agricultural fields to forests. Within these different sections, an overarching goal of carefully integrating manmade community functions with authentic natural ones took precedent. As did thoughtfully linking large-scale systems with human-scale opportunities, including locating high-speed rail stations at the intersections of the river, where connections will lead to new recreational trails. "We want the river to reclaim ecological functions, while continuing to serve the needs of the residents with a landscape framework for recreation, clean water, habitat and tourism."

Birds Eye Aerial rendering courtesy of Kilograph Renderings courtesy of SWA



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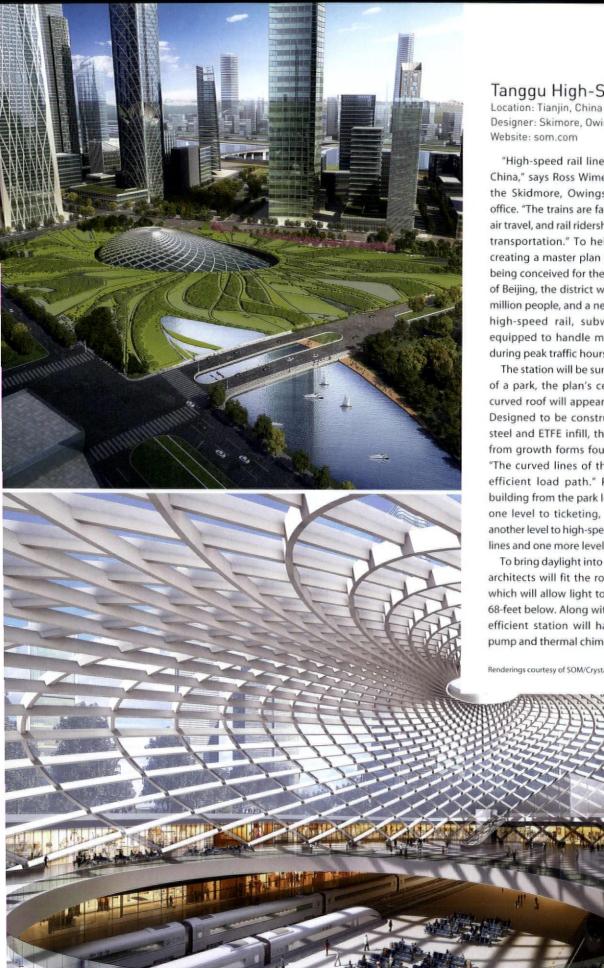
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Build. Design

Concentric Water Jet Cut Table Designed by HWI Design Division Built by Hinerfeld-Ward, Inc.

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Tanggu High-Speed Rail Station

Designer: Skimore, Owings & Merrill LLP Website: som.com

"High-speed rail lines are being built rapidly in China," says Ross Wimer, AIA, design partner with the Skidmore, Owings & Merrill (SOM) Chicago office. "The trains are faster and more efficient than air travel, and rail ridership dwarfs all other modes of transportation." To help meet that need, SOM is creating a master plan for the new Tanggu district being conceived for the city of Tianjin. Located east of Beijing, the district will accommodate around 15 million people, and a new intermodal station-with high-speed rail, subways and buses-will be equipped to handle more than 6,000 passengers during peak traffic hours.

The station will be sunk below grade in the center of a park, the plan's centerpiece, and its striking curved roof will appear to emerge from the grass. Designed to be constructed from aluminum-clad steel and ETFE infill, the lattice roof was "derived from growth forms found in nature," says Wimer, "The curved lines of the trusses define the most efficient load path." Passengers will enter the building from the park level and move below grade one level to ticketing, bus and taxi connections, another level to high-speed rail platforms and subway lines and one more level for additional subway lines.

To bring daylight into the underground levels, the architects will fit the roof with louvered skylights, which will allow light to reach the platforms about 68-feet below. Along with the skylights, the energyefficient station will have a ground-source heat pump and thermal chimneys.

Renderings courtesy of SOM/Crystal CG



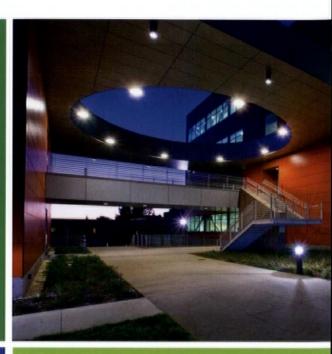
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Palestine

Portland

Westwood

"IF YOU BUILD IT, THEY WILL COME," GOES THE mythic axiom from Field of Dreams. The architect's corollary to this might be: "But if you don't design it well, they won't come back." Especially when it comes to large-scale infrastructure-everything from bridges to transportation systems to downtown master plans-architects impart a crucial sense of place and a human scale to projects. But equally important, if not more so, are the basic structural capabilities. Wide, attractive sidewalks are of no use if the adjacent streets are too narrow to carry traffic. It's the interplay between these values that

defines success, say both architects and engineers.

"Engineering is by definition objective and linear," says Ronald A. Altoon, FAIA, LEED AP, CDP, partner at Altoon + Porter Architects and incoming Chair of **Urban Land Institute** Los Angeles. "Architecture is a holistic

exciting environment that is larger than any building," he says. "The mantra in our office is: from the region to the handrail. We are always cognizant of the larger regional systems, but never want to lose sight of the human scale represented by the handrail. Everything we think about in terms of systems is checked against the individual's experience."

Suisman points out that projects of this magnitude often result in shifting lead roles. "Think about the Brooklyn Bridge, where the engineer's role is dominant," he explains, "or a concert hall, which is nothing lighting guy wanted soft lighting and security needed clear visuals," says Phillips. "The solutions were a mixture of all these things and more. Not everyone got all of what they wanted, but life is a compromise."

Sticking points can come from either side of the equation. Engineer Steven Brown, a partner at the transportation consulting firm Fehr & Peers, recently collaborated with AC Martin Partners on a master plan for Goyang, Korea. An existing urban area needed to connect to a new residential section located on a riverfront peninsula. Fehr & Peers recommended a traditional

> roadway/bridge solution, but the architecture firm pushed back, opposing the divisions that large, new arteries can impose upon existing communities.

> "AC Martin pointed out the problem of carving up dense, narrow urban space with

THE ART OF INFRASTRUCTURE BY JACK SKELLEY

In transforming the urban environment, architects and engineers push and pull between form and function

discipline, marrying art and science, and the only remaining Renaissance art. Its obligation is to translate capacity demand into human experience. It meets at the intersection of objective and subjective, prose and poetry, need and desire."

Doug Suisman, FAIA, principal with Suisman Urban Design-recently awarded "Best Masterplan" by the World Architecture Festival in Barcelona for The Arc, a large infrastructure plan for a future Palestinian state-puts this dynamic differently. "You can divide cities into paths and places. Places are where architects have worked, and paths are where the systems are. They create an

without the acoustician." Large, international engineering firms know this dynamic well. "It's not the architectural versus the mechanical," says Donald Phillips, PE, principal at Arup. "It's the mixture of the two that gets the right answer. If a project has a leaky roof, no one is happy. We have a holistic view, but we tussle all the time between these two values."

As one example, Arup is overseeing the construction of Manhattan's Fulton Street Transit Center, which merges pedestrian connections between multiple subway lines under Broadway into one facility. "The engineer wanted a column-free space, the

bridge structures that landed far into the peninsula," says Brown. "So we tapped our experience with a similar U.S. project-Alameda Point, an island adjacent to Oakland, California, with constrained roadway opportunities. In that case, we recommended a ski-lift-style overhead gondola. Eventually, both firms saw this as an elegant, low-cost, low-impact solution for Goyang."

Trade-offs occurred on an even grander scale with the Portland Mall, which is 1.7 miles and 58 blocks of streetcars, sidewalks, bus shelters, bike lanes, brick intersections, storefronts, landscaping, lighting and signage—the entire urban fabric along two streets in downtown



ABOVE: The Arc, a master plan for a future Palestinian state developed by Suisman Urban Design with the RAND Corporation, links the West Bank and Gaza with an integrated interurban rail and infrastructure line.

Portland, Oregon. Brian McCarter, FASLA, AICP, was principal urban designer/landscape architect on this renovation project for ZGF Architects LLP.

"In order to make this a great street, our client—the city and transit agency—knew it had to be urban-design led, not transitagency led," says McCarter. "There was lots of give-and-take among engineers and ourselves: Can we get a curb extension here? What if we put the electrical poles there? Pure aesthetics were never a strong enough reason to win these battles. We always argued on a functional basis. We went through the entire alignment, pushing, pulling and shaping, and no two blocks turned out the same."

Portland is a leading North American city in this regard. Others lag but offer smart examples. Deborah Weintraub, AIA, LEED AP, is chief deputy city engineer, for Los Angeles Department of Public Works, Bureau of Engineering. She has guided several infrastructure projects in the city, including the huge redesign of Santa Monica Boulevard, and her architectural background allows insight into fundamental problems. "Architects are brought into projects way too late," she says. "As a profession, we have isolated ourselves with aesthetic decisions. But when you talk about other issues budgets, community relations—we should be there, too. We miss a lot of opportunities to make extraordinary places."

She explains how the simplest pieces of infrastructure can benefit from this input. Weintraub brought in a consulting architect, PleskowRael Architecture(s), to add textures and shapes to a retaining wall on Santa Monica Boulevard in Westwood for "visual interest



ABOVE LEFT: In the revitalization of the 1.7-mile Portland Mall, ZGF Architects LLP redesigned the urban landscape along two downtown streets. ABOVE RIGHT: A retaining wall designed by PleskowRael Architecture(s) for the City of Los Angeles resembles stratified earth formations.

and variety," she says. "It became more complicated than the original design, and that caused some headaches. Because of the construction challenge, and because it was unusual, I had to spend time describing the design goal on numerous occasions. But the result was outstanding. It has not been tagged [with graffiti] very much. When you do things well they get respect."

This necessity of informing infrastructure with architecture recently prompted Richard Keating, FAIA, to merge Keating Khang Architecture with Jacobs Engineering Group Inc., one of the world's largest technicalservices firms, where he is now managing principal, architecture and design. "We need to help society now in one of its worst moments," says Keating. "Most of it has to do with the transition from a car culture to a transit culture." To compound the tragedy, this need comes during a crisis in funding in the U.S. "When I see the wonderful train stations and airports being built in China and Korea, it calls into question a lot of things about the United States. America seems to be chicken when it comes to large-scale spending and building." It may be overcoming that fear of funding in one respect. In February 2009, Congress allocated \$8 billion to states to jump-start intercity high-speed rail. Especially among firms with urban planning and transportation divisions, architects will claim a crucial role in helping to design these 21st-century systems.

When considering the long-term significance of these decisions, Ron Altoon says he often falls back on a famous quote by Jonas Salk: "Our greatest responsibility is to be good ancestors."



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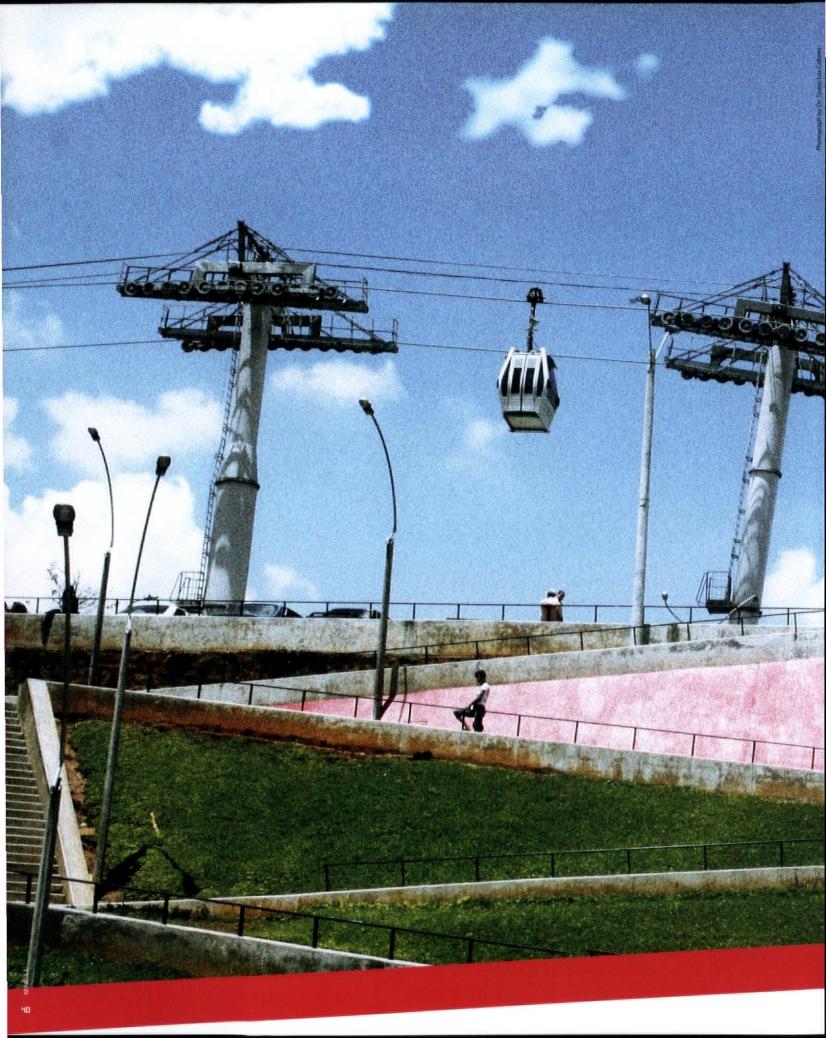
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MEDELLIN RISING **BY MICHAEL WEBB**

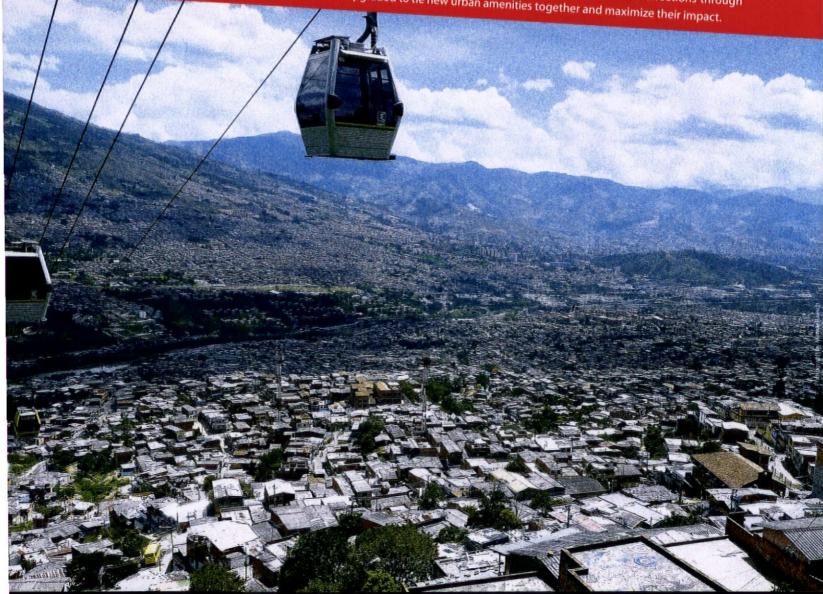
Architects join with politicians to upgrade the infrastructure of Colombia's second city

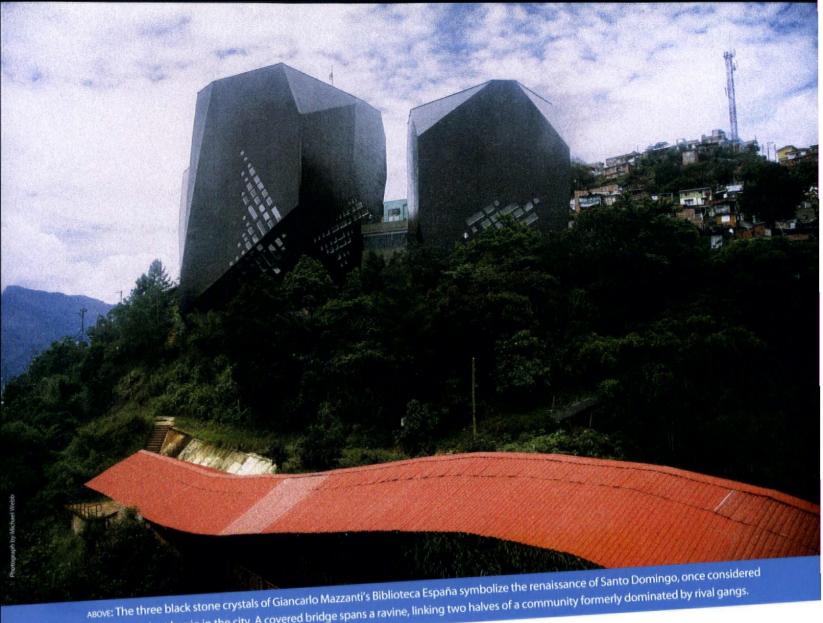
Sist

Visiting the hillside slums of Medellin is now a rewarding rather than a life-threatening adventure. An elevated Metrorail bisects the city, north to south, and cable cars access the steep slopes at either end. The nighttime ascent to Santo Domingo is as magical as the opening scene of *Blade Runner*. The city below becomes a glittering carpet of lights, the cars float silently by, and the three black crystals of Giancarlo Mazzanti's Biblioteca España glow enticingly from the edge of an escarpment. By day, you discover that parks, libraries and schools are stitched together with new roads and footpaths, to enhance an impoverished but vibrant community. In the 1980s this was a no-go zone. Medellin was a synonym for drug violence as Ciudad Juarez is today. Colombia itself was torn apart by the civil war between Marxist rebels and brutal paramilitaries. The government fought back, subduing gangs and guerillas, and decentralizing authority. In the last fifteen years, progressive mayors have transformed the two principal cities and have begun to bridge the gulf between rich and poor.

In Bogota, a sprawling metropolis of 7.5 million, Enrique Peñalosa focused on infrastructure, transportation and a network of small-scale interventions. He oversaw the It's pragmatic in intent and execution, a humane and joyful celebration of the public realm, and there is consensus in favor of spending 40 percent of the city's budget on urban improvements.

PREVIOUS PAGES AND BELOW: Cable cars link hillside barrios to stations on the elevated Metrorail that extends in three directions through Medellin. In the barrios, roads and footpaths have been upgraded to tie new urban amenities together and maximize their impact.





the most violent barrio in the city. A covered bridge spans a ravine, linking two halves of a community formerly dominated by rival gangs.

construction of 70 miles of cycle paths and a dedicated bus line called the Transmileneo, modeled on the one in the Brazilian city of Curitiba. As the industrial hub of Colombia, Medellin has a shorter history and a scant architectural legacy, but its smaller size (2.4 million inhabitants), linear plan, and pragmatic mindset gave it a boost. Improvements in transportation (bus stations and the Metro) laid the groundwork for Sergio Fajardo, a math professor who was elected mayor in 2003 on a reform ticket. In four years of office, he empowered architects and planners to realize his program. "You have to touch people's lives," he insists.

"There are plenty of beautiful plans drawn up by architects but they require political action to implement. The cable car was conceived 20 years ago; the achievement was getting it built." Last year, a new line was constructed, looping over the mountains from Santo Domingo to the Arvi National Park, thrilling visitors and giving residents a cheap excursion to the countryside on weekends.

What makes Medellin so remarkable is the high level of commitment to public projects and the close collaboration between architects of different generations, who jointly enter competitions and share credit for the buildings they design. Surprisingly, the activity seems apolitical, with none of the polarizing demagoguery of Hugo Chavez or the Castros. It's pragmatic in intent and execution, a humane and joyful celebration of the public realm, and there is consensus in favor of spending 40 percent of the city's budget on urban improvements. Bogota led the way as the capital always has, historically, but it has lost ground to Medellin in recent years, much as Barcelona has overtaken Madrid in architectural innovation.

The principal architect of change in Medellin was Alejandro Echeverri, who launched his career designing houses for the rich, and then switched his focus to the



ABOVE: The Orquideorama, located in the Botanical Garden of Medellin, is a steel-framed canopy topped with glass and clad in wood strips to evoke a forest grove. Orchids grow at the base of hexagonal steel "trees," and the space is used for events and informal gatherings.

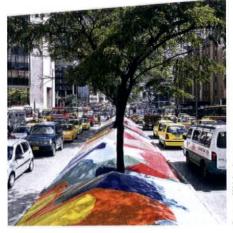
urban problems of his city—as a post-graduate student in Barcelona, and in his present post as a university professor. "Fajardo invited me to help him prepare proposals for his campaign and when he won I became manager of EDU, a planning institute within the city government," he says. "Sergio's timing was good. He invited people from across the political spectrum to work with him and intervened in the most problematic areas. We called our strategy social urbanism and sought to integrate each improvement to achieve a larger impact."

Many Colombian architects studied in Barcelona during the violent decades of the '80s and '90s, and that city provided a model for pocket parks and plazas. "Public space has a powerful meaning in neighborhoods where housing is in bad condition," says Echeverri. "The conventional way is to tackle housing first; we focused on communal facilities to improve peoples' lives. It's essential to work with each community so that the technical aspects are not isolated."

A younger architect, Emerson Marin, concurs: "Medellin has a climate and culture that supports open spaces, but we lost touch with that for a couple of decades because of the violence; it was too dangerous. People need to break out; I spent my younger years behind protective walls. Architecture and planning can provide the infrastructure for social programs."

As a few of the barrios were improved, the decayed center of Medellin was upgraded with a network of plazas, some landscaped with pools and fountains, linking a succession of public amenities. The green lung of the Botanical Garden was opened up and enhanced, most notably by the vast trellis canopy of the Orquideorama. Mazzanti took the lead in designing swooping steel canopies over four sports halls bordering the football stadium, and Luis Callejas of Paisajes Emergentes created a quartet of outdoor swimming pools, which emerge from a richly planted labyrinth. The character of Avenida Orienta, a main highway that slices through the city, was enriched by the vibrantly colored ceramics that clad a pitched median strip, designed by S&A Arquitectos. This barrier encourages pedestrians to cross the eight lanes of traffic at the lights and not at mid-block.

Santiago Londoño, another professor turned pol, identifies the problems of success. "What was novel is now normal," he says. "Everyone is clamoring for new schools, libraries and parks, and we cannot afford to build them in every barrio. But the impact of what we have built is incredible. The Lower East Side of New York at the beginning of the last century had no public space, the streets were a fighting ground, and families were hungry and crammed into small apartments. Then they were given public spaces they could share, and libraries where they could read, learn and become someone else. That's what we are trying to achieve now."



ABOVE: S&A Arquitectos transformed the busy Avenida Orienta with a ceramic-clad median strip. BELOW: Giancarlo Mazzanti and FelipeMesa/Plan:b collaborated on the competition-winning design of four sports halls that hosted the 2010 South American Games.

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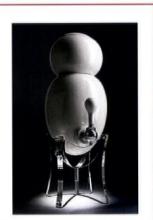
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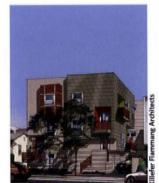
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