

SPRING 2003

Designing the Future

A Pittsburgh initiative on civic design is not only turning heads, it's changing minds.

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The Magazine of The Heinz Endowments



INSIDE: Breaking Down Barriers | Robo Rallies

inside

Founded more than four decades apart, the Howard Heinz Endowment, established in 1941, and the Vira I. Heinz Endowment, established in 1986, are the products of a deep family commitment to community and the common good that began with H. J. Heinz and continues to this day.

The Heinz Endowments is based in Pittsburgh, where we use our region as a laboratory for the development of solutions to challenges that are national in scope. Although the majority of our giving is concentrated within southwestern Pennsylvania, we work wherever necessary, including statewide and nationally, to fulfill our mission. That mission is to help our region thrive as a whole community — economically, ecologically, educationally and culturally—while advancing the state of knowledge and practice in the fields in which we work.

Our fields of emphasis include philanthropy in general and the disciplines represented by our grant-making programs: Arts & Culture; Children, Youth & Families; Economic Opportunity; Education; and the Environment. These five programs work together on behalf of three shared organizational goals: enabling southwestern Pennsylvania to embrace and realize a vision of itself as a premier place both to live and to work; making the region a center of quality learning and educational opportunity; and making diversity and inclusion defining elements of the region's character.

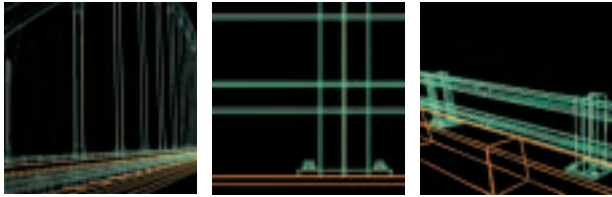
h magazine is a publication of The Heinz Endowments. At the Endowments, we are committed to promoting learning in philanthropy and in the specific fields represented by our grantmaking programs. As an expression of that commitment, this publication is intended to share information about significant lessons and insights we are deriving from our work.

Editorial Team Linda Braund, Nancy Grejda, Maxwell King, Maureen Marinelli, Grant Oliphant, Douglas Root. Design: Landesberg Design

About the cover Paige and Cole Ryan, along with friend, Cole Mueller, all of O'Hara Township, do some swimsuit modeling on the Water Steps at North Shore Park. The children wanted to splash around on the steps after their parents caught the finish of the recent Pittsburgh Marathon, but found the fountain shut down for some pre-season maintenance. So we've "turned the water on," superimposing a working-fountain image, to show why the young—and the young at heart—will find the steps so enticing this summer. Funding and guidance for this project and others in the \$33.2 million first-phase development of the park are just some of the activities of The Heinz Endowments' Civic Design Initiative, reported in this issue.

h

Volume 3 Number 2 Spring 2003



4

A Leg(o) Up On Techno-Science

Thousands of students who shunned technical subjects are literally cheering for them in a program that puts robots, computers and competition into the equation.

12

Unconventional By Design

Architects and urban planners have long been preaching about the benefits of sustainable development. Now a foundations-led Civic Design Initiative is bringing more voices into a community process that is changing the regional landscape.



22

Point Of View

When transportation engineers planned to wall off one of Pittsburgh's signature views with chunks of concrete, community leaders drew a line on the bridge. How safety versus good design became safety and great design.

2 Feedback

3 Message

32 Here & There



feedback



2

From Winter 2003

Founder's Factory

In Christine O'Toole's story on the Mattress Factory I was relieved, finally, to reach Michael Olijnyk's concluding remark about the organization's absolute commitment to being run "by artists, for artists."

I can certainly think of other small museums and art centers whose founding directors outlasted their capacity for positive organizational influence, but Barbara hasn't become one of them. Perhaps the crucial difference between Barbara and the others I have in mind is her absolute commitment to an organization that maintains its space strictly for the original purpose of its programming.

The Mattress Factory's rigorous devotion to a specific artistic practice has helped it to thrive because the critical and philosophical issues that inform installation art have achieved art-world prestige which transcends the politics of medium specificity and historical succession that bogged down innovation in other artist communities.

It is, in part, a function of installation art's diverse nature that no particular artist or ideological cabal has succeeded in foisting an exclusionary definition on the practice. The Mattress Factory's recognition of this conceptual expansiveness is confirmed in the generous conceptual range of the installations it has sponsored.

The Mattress Factory has combined steadiness in administration and curatorship with successful transitions in development, outreach and preparatorship. [In] a nearly 20-year acquaintance, I have watched it weather more than one funding crisis during that time. What I have never seen is a shortage of either energy or vision.

Buzz Spector

(The writer, a professor in the School of Art and Design at the University of Illinois, Urbana-Champaign, is a sculptor whose work has been exhibited at the Mattress Factory and national arts institutions.)

Christine O'Toole's perceptive reporting on the succession issue around a profile of the Mattress Factory's talented leader, Barbara Luderowski, should be required reading for all arts institution board members. We can learn some valuable lessons from the Mattress Factory experience.

The first is that board members should be keeping tabs on qualities and principles that founding directors bring to their organizations, then look for formal ways they can be transferred to younger staff. The second and, in my view, more important lesson is that chronological age should be the least important factor around succession. I learned that from Barbara. In the fall of 1988, she took a chance when she hired my then 70-year-old mother to work at the Mattress Factory's annex, 1414 Monterey. To the untrained eye, Norma Perlmutter was just a little wisp of a white-haired lady who carried an oversized bag and walked fast in her black Reeboks.

Instinctively, however, Barbara admired my mother's spunk and, as she soon discovered, Norma's depth of knowledge of the arts. Through more than a dozen years, until my mother's death in November 2001, Norma became a Mattress Factory fixture who enthusiastically learned about the artists so she could explain their installations to visitors.

This is a sliver of an example of Barbara's extraordinary capacity to see beyond artificial limitations like age and focus on attracting a group of people whose passion and knowledge will ensure the Mattress Factory's future.

Ellen Mazo

(The writer was named to the Mattress Factory Board in 2002.)

BioBelievers

As an observer of efforts that are occurring across the country to encourage the growth of technology-based companies, I read "BioBelievers" with great interest and some consternation. I read it with interest because Pittsburgh has transformed itself through its focus on investing in the future and has become

a national model for economic revitalization.

A key component of that has been the catalytic role the Pittsburgh regional foundations have played and continue to play. It's a trend that happily we're seeing with increasing frequency — whether it's The Heinz Endowments in Pittsburgh, the Kauffman Foundation in Kansas City, the Danforth Foundation in St. Louis, or the Flinn Foundation in Phoenix. My consternation was a reaction to implied questions in the article about whether this was an appropriate role for the foundations to play. Traditionally, economic development has been largely the province of state and local government with foundations providing important but sporadic support for individual projects.

More active involvement of foundations in the economic development process affords regions with an opportunity to consider long-term results and take a more deliberate and strategic approach. Removed from the pressures of short-term profits that increasingly drive the corporate community and the demand for immediate political benefit that depressingly seems to drive more and more elected officials, foundations are able to encourage strategies that will benefit the community as a whole and stimulate the investments that will help bring those strategies to fruition.

Pittsburgh, like all communities around the nation, has had the choice to try to adapt to a rapidly changing economy, or to ignore the problem and hope that all will be well. My hope is that more community foundations will demonstrate the kind of leadership Pittsburgh's foundations have shown.

Dan Berglund

President and CEO

*State Science and Technology Institute
Westerville, Ohio*

Editor's Note: A reference to Allegheny General Hospital in *h's* Winter 2003 "Founder's Factory" story incorrectly named it as part of a 1998 bankruptcy filing. Allegheny Health, Education and Research Foundation (AHERF) and four of its subsidiaries filed for Chapter 11 protection, but the hospital was not included.

message



By Teresa Heinz
Chairman, Howard Heinz Endowment

3

An interesting quality-of-life issue has captured a share of the media spotlight in Washington, D.C. recently. For the sake of security, more and more of what makes the city special is being barricaded, walled-off and fenced in. A debate is growing over how to protect government offices and beloved monuments without obliterating the sightlines and basic design that give the nation's capital its distinctive grace and charm. “[It’s] a trashing of the city,” renowned architect Arthur Cotton Moore said in a recent *Washington Post* story. “We are creating a monument to the Jersey Barrier.”

One place Washington can look to for inspiration on how to avoid trashing the city in order to save it is Pittsburgh. This community has done battle with its own Jersey Barrier problem, literally, and won. The stakes were markedly different — traffic safety as opposed to protecting against terrorism — but the underlying dynamic was the same: a narrow definition of functionality, applied repeatedly and perfunctorily in sites around the state, was threatening to block off some of Pittsburgh’s most prized cityscapes behind walls of concrete.

The reasons that didn’t happen are detailed in this issue of *h* in “Point of View,” Christina Schmidlapp and Doug Root’s engaging account of how a coalition of community activists, engineers, architects, politicians, civic leaders and foundations banded together to design an alternative barrier that meets federal safety standards but also preserves precious views.

An even broader context is provided by Jim Davidson in his excellent cover story, “Unconventional By Design.” As Jim illustrates, Pittsburgh is learning to supplant ad hoc building and design decisions based on narrow definitions of utility with a more thoughtful approach to design solutions that work on multiple levels — functionally, aesthetically and environmentally.

That was the Endowments’ hope when we launched our Civic Design Initiative a few years ago. There was clear evidence that the design of a community’s public realm has significant implications for its quality of life. That alone was reason for us to act, but we were persuaded also by the increasing importance of quality of life as a factor in economic development. We decided to make better civic design a major

collaborative focus of our grantmaking programs.

The result, as you will see in these pages, is more than a new design ethos. It’s the stunning visual transformation of a drab and boxy convention center into a two-block work of art by New York architect Rafael Viñoly. It’s the creation, in that same facility, of the largest green building in the country. It’s converting Nine Mile Run from a sewage-tainted stream into the fish-filled heart of an urban greenway. It’s a vision, already being realized, for an unparalleled park all along the downtown confluence of Pittsburgh’s three rivers. And it’s a vision, too, for reconnecting Hazelwood with its riverfront by redeveloping the site of an old steel mill into a mixed-use, urban neighborhood.

For every one of these projects, there have been naysayers, guardians of the status quo arguing that any redesign of standard operating procedure will take too long, cost too much or flat-out not work. And in every case so far, they have been proven wrong. Engineers, politicians, civic and business leaders, property owners, developers, community activists and foundations have been able to step away from fixed positions and take a broader view of the community we are creating, one design decision at a time.

I was asked recently to write an introduction for the tenth anniversary reissuing of *The Hannover Principles: Design for Sustainability*, a book by architect and green-design champion William McDonough and chemist Michael Braungart, who founded the Environmental Protection Encouragement Agency in Hamburg, Germany. In it, they cite author Italo Calvino’s statement: “Cities, like dreams, are made of desires and fears.”

Too often, the shortsighted, piecemeal decisions that give our cities their physical shape are based on our fears rather than on our desires. In Washington, it may be the fear of terrorism; on a bridge in Pittsburgh, the fear of traffic accidents. Those fears are real and must be honored, but we only impoverish ourselves by making them our sole or even our paramount design criterion. Good design begins, always, with remembering the full range of needs it must meet, including the powerful human need for places that are worth living in because they uplift our spirit and embody our dreams. *h*



A LEG(O) UP ON TECHNO-SCIENCE

Move over sports jocks: snap-together toys and computer programming are combining for suspense-filled student tournaments and even a cheering gallery. (Just don't tell them it's school stuff.)

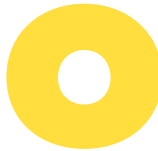


Samantha Morford reverts from computer programming to line up the RoboGrrris YWCA Challenge Team robot in the starting position for a heat in a regional Lego-robotics tournament at Carnegie Mellon University. Looking on anxiously is teammate Brittany Baradziej.

Left: Amy DePonte is entertained by YWCA Challenge teammate Leslie Brunot's pleading for divine intervention in a City Sights Tournament heat.
Right top: trophies made of Legos wait to be claimed by tournament champions.
Right bottom: The RoboGrrrls' Rebekah Newborn performs some last-minute, emergency maintenance on a "tankbot".

By Tracy Certo
Photography by Joshua Franzos

6

 In a cool and cloudy Saturday, 10 middle-school girls have denied themselves a perfect sleep-in morning and arrived early at the Westmoreland County YWCA.

It is the regular meeting place for the RoboGrrrls Robotics Team, which might imply that these students are full of energy and ready for some deep thinking. But several girls stifle yawns and stretch out on the carpeted basement floor as their team leader begins the lesson overview. It is only later, as the team members gather around a giant game board to debate strategy, and when they begin to manipulate Lego toy creations made out of those colorful snap-together building pieces, that the stragglers spring to life. And when they do, the team is primed. The mission is to prepare for an upcoming robotics competition — programming Lego-built “tankbots” to perform as many autonomous missions as possible in the allotted time. Lower the Lego drawbridge and gain 32 points. Snag a food loop from the Lego trees: eight points. Deposit a bundle of material at the construction site: six points at one level of difficulty, or —“Let’s go for it!” urges one, now fully awake — 10 points at a higher level.

To be a winner in “City Sights,” the Lego League competition in the For Inspiration and Recognition of Science and Technology, or FIRST, Program, team members not only must have their strategies down cold, they also must be sure their computer-connected robot is programmed to perform flawlessly in order to score maximum points in minimum time.

For 10 weeks, the RoboGrrrls, along with 40 other boys’ and girls’ teams throughout the Pittsburgh region, will put in scores of hours of practice. Students see the reward for all this work as being on a winning team, or at least being part of the excitement that comes from an intensely competitive tournament. But just as many might not realize that consistent, repetitive practice at their favorite sport sharpens ability, they also are unaware that, with robotics, the same is happening

for their math, science and engineering skills. Programs like FIRST and the Lego tournaments supplement robotics and other advanced technologies that may be missing from traditional school curricula and help spark younger students’ interest in these subjects before they make university, job and career choices.

These programs could reverse a disturbing trend that is alarming to high-school teachers, university educators and employers: American students are falling behind their counterparts in other countries in science, math and advanced technologies subjects.

That’s a key reason why The Heinz Endowments and several other regional foundations have made increasing student interest in these subjects a high priority in their programming objectives. In the robotics-connected programs through Carnegie Mellon, six regional foundations are the primary funders. The Endowments alone has pooled more than \$3.8 million during the past five years through its Education and Children, Youth & Families Programs to fund a series of student-interest–boosting initiatives in the science and technologies field, including the FIRST Program through the Robotics Academy at Carnegie Mellon University.

Director Robin Shoop, a winner of a 1999 Teacher of the Year Award from the National Foundation for Teaching Entrepreneurship, is the first to agree that learning technical academic skills is not what drives these students to show up for programming sessions and weekend-long tournaments. “The tournaments encapsulate it all,” says Shoop. “Project management, problem solving and teamwork.”

It’s the adrenalin rush, he says, coming from group competition that holds student interest. The bonding that comes with teamwork and the life lessons learned from practice also are attractive. Ask any participating student what he or she thinks of the Lego League program and the answer is, well, robotic: “It’s *cool*.” Students in ball caps and braces may not



be quick with eloquent descriptions of the program, but they are very quick at picking up robotics skills. Many of them — from middle-schoolers to high-school seniors — don't realize how ill-prepared they may be for careers increasingly affected by a technically oriented, global economy.

According to the National Science Foundation, more than half the students in American universities who graduate with advanced degrees in engineering and science are foreign-born.

“If we want to maintain our standard of living as well as compete [in a world economy], we need to do a much better job of exciting a larger number of children to pursue careers involving science and technology,” says Shoop, who also is director of educational outreach at the National Robotics Engineering Consortium. He cites a graying of the engineering work force and fewer graduates entering the field to replace them.

Undergraduate enrollment tracking by the National Science Foundation in one technical field alone — engineering majors in United States colleges and universities —

underscores the seriousness of the problem. In 1983, the peak year for engineering enrollment, 441,000 students were in the major. By 1999, the number had whittled to 361,000 students, a 20-percent drop.

Regional foundation leaders in the field like Gerry Balbier of The Heinz Endowments' Education Program and Alcoa Foundation President Kathleen Buechel are regularly confronted with similarly depressing surveys. These include international math and science test-score comparisons of industrialized nations' high-schoolers that consistently rank U.S. students in the middle to lower rungs.

The key to moving U.S. students into the top ranks, says Balbier, is to move math- and science-connected activities higher on their personal priority lists.

“We have seen that programs like the robotics Lego League motivate kids to take an active role in their own learning,” he says. “Too many teachers and parents have low expectations for what students can do in math, science and engineering, mostly due to their own experience with these subjects.”

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Robin Shoop

Director, FIRST Program Robotics Academy
Carnegie Mellon University



A yellow-T-shirted member of "The Crew," a team made up of students from three south-central Pennsylvania high schools, is charged up in the thick of a competition dubbed the "Stack Attack." His red-shirted ally is from the Cat Attack team from Ohio's Sylvania City Schools. These two are competing against members of two other teams on the other side of the playing field. They first must succeed in getting their robots to move a stack of crates across the field. After 15 seconds, opponents can maneuver robots to block their attempts. Collisions can be violent, with robot innards flying into the cheering crowd.

"WE HAVE SEEN THAT PROGRAMS LIKE THE ROBOTICS LEGO LEAGUE MOTIVATE KIDS TO TAKE AN ACTIVE ROLE IN THEIR OWN LEARNING. TOO MANY TEACHERS AND PARENTS HAVE LOW EXPECTATIONS FOR WHAT STUDENTS CAN DO IN MATH, SCIENCE AND ENGINEERING, MOSTLY DUE TO THEIR OWN EXPERIENCE WITH THESE SUBJECTS."

Gerry Balbier
Program Officer
The Heinz Endowments

At the younger-student outreach section of the world's largest robotics research organization at Carnegie Mellon, the Robotics Academy motto, "Building One Engineer at a Time," is emblazoned on its Web site and stands as much a source of pride as a warning about the daunting task confronting American educators.

But even some of the toughest challenges can be fun.

In the cavernous Engineering Consortium Building, fascinating robotic research projects such as Ford's "Tugger" are tested for eventual use on automotive assembly lines. Using a vision system, the compact wonder moves auto parts and stacks them on shelves, similar to the miniscule-by-comparison Lego tankbots that deliver material to the construction site in the "City Sights" competition.

There, surrounded by the most advanced robotic technologies in the world, Lego League tournaments, Bot Ball games, Robo Cup championships and other competitions are held every year.

In March, for the first time since competitions began in the early 1990s, Pittsburgh hosted a regional FIRST Robotics Competition that included about 500 high-school students on 34 teams from five states and Ontario, Canada. The goal was to qualify for the national championship in April in Houston.

The event at the massive Petersen Events Center at the University of Pittsburgh, normally the home turf of the schools' basketball team, drew several thousand spectators and hangers-on and took on the color of a major sporting event.

"The first thing you notice is all the whooping and hollering as the crowd voices support for a favorite team," says D'Ann Swanson of the Pittsburgh-based Grable Foundation, another robotics tournament funder. "Where else can you see that kind of excitement around activities such as math and science?"

The beauty of these mechanical toys is that most everything in robotics can be tied to an applied math, science or engineering principle. Robotics is built upon a series of predictable behaviors that can be measured mathematically, such as wheel diameter and its effect on speed, for instance, or arm length and its effect on torque. What's more, due to their complexity, robots are the ultimate systems models — primers for understanding more complex machines such as navigation and sensing components. Not only can robotics motivate students to learn academic concepts that can be tricky in the abstract, they also render those concepts immediately relevant. That can be a phenomenal motivating force for students subjected to traditional classroom teaching, where relevance often is the first casualty of instruction.

Robot in the pit: F.I.R.E. Team maintenance crew members Raashun Hunter, left, William Hanashiro and Omar Collins service a robot fresh from the playing field to ready it for the next heat. The students are from Flint Community Schools in Flint, Michigan, and their team name stands for "Flint Inspires Real Engineers."



Matt Conrad, foreground, a hand waving the victory sign, joins his Robostangs teammates in celebration after a dramatic win.



10

To program the tankbots, students learn icon-based programming, “wiring” together a series of computer picture icons in a required pattern. To move the tankbot forward for four seconds, students copy and paste the forward motion icon onto the wire on the computer screen, and then paste and string (think linear equation) the four-second time icon next to that. The same code writing allows the tankbot to turn, spin or, by inserting a loop, repeat a series of commands for a specified number of times.

For example, to remove boulders from a playground, a requirement in the *City Sights* game, students build a Lego tankbot similar to a bulldozer. A front “blade” pushes the one- to two-inch Lego boulders. A touch sensor — a switch that can be activated — is placed on the blade so it “feels” the boulder. With its load captive, the robot then turns and moves forward, releasing the boulder in a safe area.

Strategy is the name of the game. Students decide whether to program a speedy robot that gets one boulder at a time or a slower robot with a big scoop that goes after four boulders at once. Some teams create attachments for their tankbots; others opt to use two types of tankbots, switching them at home base as needed.

As in all robotics programming, team members must first identify a problem, research ways to solve it and then decide on the best strategy. Only then do they begin to design the robot and refine its programming to perform the required functions.

Once the program is written beginning to end on the computer — visualize lines of picture icons connected — it is transmitted by the computer’s infrared tower to the tankbot’s onboard processor. Flip the “run” switch and, presto, the tankbot morphs into an autonomous robot that performs on cue. If all goes well, that is.

In the end, a few teams are rewarded with highly coveted, 18-inch-high trophies made of — what else? — Legos.

“We have smart houses, smart cars, smart phones and refrigerators. What we don’t have are lots of teachers and parents who can help children understand this technology,” says Shoop. After years of listening to teachers confess their lack of ability to teach robotics, he developed the Robotics Educator CD, a detailed curriculum formatted so a teacher with no robotics background can use it in the classroom.

Creating teaching tools for insecure educators is what sets the Carnegie Mellon program apart from others across the country, and the CD is now being offered nationally. But it also feeds directly into the bigger-picture strategies of funders like the Endowments, which has a core Education Program goal of finding the best ways to train teachers to perform better.

On the Engineering Consortium’s second floor, in a long, spacious room lined with computers, Shoop oversees other professional development opportunities available to teachers. Since its formation in 2000, about 200 southwestern Pennsylvania middle- and high-school teachers have undergone training or attended one-day seminars subsidized by the foundation community. Carnegie Mellon has been designated a National Teacher Trainer Center, and educators who attend 10 three-hour sessions receive professional development credit along with the additional incentive of \$1000 in robotics kits to take back to their classrooms.

Shoop estimates that as many as 300,000 students across the country will be exposed to robotics for the first time as a result of teacher training and the first year’s CD sales.

Since the Robotics Academy began three years ago, more than 2,000 southwestern Pennsylvania students have taken part in robotics competitions, camps and weekend seminars. Although most students link up to the programs by joining an existing team, the Engineering Consortium has made a special effort to recruit minorities, girls and students from low-income families. Some receive scholarships, which fund the kits, team registration (\$400 each) and the instructional training required.

Bruce Kramer, director of the National Science Foundation’s Division of Engineering Education and Centers, says programs like the Robotics Academy and the special



recruitment efforts of younger students traditionally distanced from science and math courses are key to changing a university culture that is off-putting.

"[There is] a failure of engineering schools to make new students feel welcome in the profession and adequately relate the fundamentals taught to students in school to the actual practice of engineering," says Kramer. That leads students to leave engineering majors citing poor teaching and lack of interest in science.

Women and African-American students may be among those most likely to bolt, he adds. Their combined engineering graduation rate has been stuck at 20 percent for years.

That's the primary motivation for the Alcoa Foundation's Buechel recommending funding of the Robotics Engineering Consortium's programs. "It strives to reach a diverse cross-section of students who sometimes feel distanced from science," she says. Although southwestern Pennsylvania students are entering robotics league competitions in record numbers and proclaim the experiences "cool," one of the key success determiners for funders will be the numbers of local students shifting academic and career paths into science and technology. In his second year of leading a Lego League team, Lawson Shaw, a programming coordinator of Hosanna House, a nonprofit activities center serving low-income families, hasn't done a survey. But he's confident from his personal observations that a numbers count after a few years will bear out his impressions.

"I've had some students who've never thought about engineering or Carnegie Mellon in particular because it was out of

their realm," he says. "Now they're seeing that Carnegie Mellon is interested in them."

For Shaw, who supervises eighth-graders, the fully funded robotics program is the only way of getting computers in front of his students. They love the robotics experience, he says. "If you lecture to these kids, they become bored and listless. They learn by doing."

Back at the Westmoreland Y, the team is proving that point. As players gather around the game board, discussing their strategy and the different options, they appear fully engaged, not a yawn in sight. "Which size tankbot would be the best?" 12-year-old Kayla Pickett asks a teammate. They decide to build two bots of different sizes and put them to the test. Both students are graduates of RoboAcademies I and II, and they know their stuff.

Dean Kamen, the widely hailed inventor and scientist who created FIRST and then teamed with Lego for the national tournaments, could place pictures of these two budding techno-wizards on the section of his Web site that proclaims a sort of mission statement for the program.

"We want to show young people that science is not reserved for some small group of people who have a genetic predisposition for it. We want to help make scientists and engineers out of students who don't think they can be." *b*

For more information on the Robotics Academy, log on to: www.rec.ri.cmu.edu.

NAMES: 2002 SCHENLEY HIGH SCHOOL GRADUATE MATT SOKOL, LEFT, AND UNIVERSITY OF PITTSBURGH STUDENT ANDREW MEYER WITH THEIR DATES, NORTH CATHOLIC HIGH SCHOOL SENIOR AMANDA FAIRBANK AND SCHENLEY HIGH SCHOOL SENIOR NATALIE WILSON. **FROM:** ALL ARE HOMEGROWN PITTSBURGHERS. **WHY ARE YOU HERE?** NATALIE, AFTER BEING TOLD BY HER UNCLE ABOUT A PHOTO SHOOT ON THE CONVENTION-CENTER ROOF: "OUR PROM IS DOWNTOWN AT THE HILTON, AND SINCE WE WANTED TO SEE THE NEW CONVENTION CENTER, WE WANTED OUR PICTURES TAKEN UP HERE. THE VIEW IS TERRIFIC. PLUS IT IS CLOSER...DIFFERENT THAN GOING UP TO MT. WASHINGTON."





UNCONVENTIONAL BY DESIGN

In Pittsburgh, architects audition in front of a citizen-jury to shape a new convention center, public buildings get public art and the city leads the nation in green building. A report on the early impact of a foundation-led Civic Design Initiative.

By Jim Davidson

Photography by Dennis Marsico

14

On a warm evening in May 2006, a spectacular sunset is casting silver and orange hues across the Allegheny River as it flows past downtown Pittsburgh. Out on the water, a finely tuned racing shell slices through the water, taking full advantage of a gentle breeze. Ruling over it all is the place known as the Promenade, the fourth-floor deck of the David L. Lawrence Convention Center that cantilevers over Fort Duquesne Boulevard and presents itself to water, sky and urban architecture like no other landmark in the city.

On this night of nights, the high-school seniors are resplendent in their strapless gowns and tuxes. They step from a flotilla of stretch limos clogging traffic in front of the convention center; they awkwardly hold hands and clutch cameras as they glide up the escalators to the Promenade, where a gleaming stainless-steel roof sweeps in dramatically from behind, where water and bridges come together in a panoramic frame. The cameras click. The couples linger a moment, and soon they are gliding down in search of more magic.

In May 2003, as the rush is on to finish for a September grand opening of the convention center, its future as a prom stop is fixed in the mind of Mary Navarro, a program officer at The Heinz Endowments. “In my mind, that scene will mean success,” says Navarro. “If it’s a given that students go to the Promenade to have their pictures taken on prom night, just the way it is now on Mount Washington, it will mean that people feel that this is their building, a special place that is all about Pittsburgh.”

Navarro, who is in charge of the Endowments’ three-year-old Civic Design Initiative, maintains a strong rooting interest in a host of projects that, if successful, will not only remake the way Pittsburgh looks and feels, but the way its public, private and philanthropic interests work together to get things done. The foundation may be among the first in the country to formalize a process for public design and quality-of-life improvements.

One Pittsburgh project destined to resonate nationally is the convention center with its sleek design and enough substantive features to qualify for national “green building” certification. But they’re not the only new civic design jewels in the city’s landscape. There are new sports arenas and retail spaces, thickets of city townhouses and even those view-friendly Pennsylvania Barriers on the Fort Pitt Bridge. (See *Point Of View*, p. 22) On the North Shore between the stadiums, retail, office and residential buildings all share in the green space that lines the riverbank. Along the Monongahela toward Hazelwood, playing fields and mixed-use commercial and residential buildings are envisioned for a former steel mill site purchased last year by the Endowments and three other foundations.

Final plans for the riverfronts have yet to take shape, but one thing is certain: people are talking. No, they are gesticulating about — of all subjects — building design and land-use planning. All this passionate discussion is happening in a city once so choked with mill smoke that the rain was black.

The decision to carve out parks and riverfront housing rather than windowless warehouses and bigger-is-better 50-story office towers began in the North Shore Executive Committee and took shape in the activism of Pittsburgh’s progressive mayor, Tom Murphy, embodied in his Riverlife Task Force, a rare coalition of movers, shakers and people in between who recognize the aesthetic and recreational value of the rivers. Task force members include private developers; the mayor and key government staffers like those in City Planning; foundation and civic leaders, including a former editor of the city’s largest daily newspaper; neighborhood activists; architects and academics; athletes, environmentalists and artists.

A decade ago, civic design was just a scratchy signal on the public discourse bandwidth, but recently some powerful voices have begun to amplify the concept and test its benefits by backing high-profile projects. Design it wrong and the city faces a perilous future, the advocates of good civic design say.

Jim Davidson is a Pittsburgh-based writer who teaches journalism at Carnegie Mellon University. His last story for the magazine was about the impact of an exhibit on lynching at The Andy Warhol Museum.

But design it right — dream “bold dreams” in the words of the initial civic design challenge issued by Teresa Heinz three years ago as chairman of The Howard Heinz Endowment — and the future is boundless.

“We’re more likely to have thoughtful design than we had in the past,” says Patricia Lowry, architecture critic for the *Pittsburgh Post-Gazette*. “People are taking into account context, which was not a word that had much currency in the design language 30 years ago. You’re less likely now to get buildings that have no relation to their immediate environment.”

Cultural District by turning a moribund movie theater into Heinz Hall, and Senator H. John Heinz III brought structure to the district’s development by funding the Pittsburgh Cultural Trust and personally involving himself in the Trust’s real estate development projects. King calls the trust “the grandest expression of civic design in this or any other city.” He cites Howard Heinz Endowment Chairman Teresa Heinz for promoting the district as a national model, extending the notion of civic design beyond the district’s boundaries and into the larger community. “She is pushing a public process

“PEOPLE ARE TAKING INTO ACCOUNT CONTEXT, WHICH WAS NOT A WORD THAT HAD MUCH CURRENCY IN THE DESIGN LANGUAGE 30 YEARS AGO. YOU’RE LESS LIKELY NOW TO GET BUILDINGS THAT HAVE NO RELATION TO THEIR IMMEDIATE ENVIRONMENT.”
Patricia Lowry Architecture Critic, *Pittsburgh Post-Gazette*

Civic design is more than bricks and mortar, more than a gussied-up definition of city planning. Civic design is not about a department, but about a collaboration among people with different stakes in the same community. Civic design is about process as well as results. It’s about engaging communities of planners and designers to “think big” and “think small” simultaneously, recognizing the broad environmental and community contexts of their work along with the intricacies of working together.

Civic design has the power to enhance quality of life as buildings, landscapes and built spaces dovetail in combinations that no one can yet envision. “We’re not creating a new sensibility,” says Endowments’ President Maxwell King. “Civic design,” he says, “has been a focus of the Heinz family for 100 years.” Taking the long view, King traces civic design back to company founder H. J. Heinz, who was recognized at the 1900 Paris Exposition as the world’s most enlightened employer. Heinz also hired Frederick Law Olmsted, Jr., the son of the architect of New York’s Central Park and a star urban planner in his own right, to create a parks plan for Pittsburgh. Heinz’s son, Howard, was responsible for Heinz Chapel at the University of Pittsburgh. Jack Heinz launched the downtown

that formalizes the Heinz family’s philosophy so that it is achievable in any community,” he says.

King, who served as co-chair of the Riverlife Task Force has come to see civic design as a central principle. “You have to do exemplary projects,” King explains. “You have to work with political and civic institutions to build in a kind of thinking. And you have to convey to the public that there’s a real value here. It’s not a frill.”

When King, former editor of the *Philadelphia Inquirer*, arrived in Pittsburgh five years ago and toured the city’s architectural gems, he asked basic questions like “Who was it who was smart enough to get a Henry Hobson Richardson?”

The Boston architect was already two years in his grave in 1888 when the new Allegheny Courthouse and Jail opened to instant acclaim. Today, the castle-like brownstone building still rules over downtown, an ageless masterpiece revered for form and grace and the vision behind it — a great architect’s rendering of what a great public building could be.

By the 1990s, Richardson’s building stood in awkward contrast to the cantilevered, brick-faced barn, the first version of the David L. Lawrence Convention Center. In 1972, the architect, Celli-Flynn, had been chosen and \$27 million in



NAMES: ANTHONY RYAN AND 3-YEAR-OLD DAUGHTER, PAIGE **FROM:** O'HARA TOWNSHIP. **WHY ARE YOU HERE?** ANTHONY: "WE WERE AT THE STADIUM TO SEE SOME FRIENDS FINISH THE PITTSBURGH MARATHON BUT THE KIDS WANTED SOMETHING FUN TO DO." HIS DAUGHTER AND OTHER CHILDREN IN THE GROUP WERE KEPT OCCUPIED, HE SAYS, PLAYING ON THE WATER STEPS AT NORTH SHORE PARK, EVEN THOUGH THE FOUNTAIN WAS TURNED OFF FOR PRE-SEASON MAINTENANCE. THE LANDSCAPE SCULPTURE WAS INSPIRED BY PITTSBURGH MAYOR TOM MURPHY, REFINED IN A SERIES OF PUBLIC MEETINGS AND FUNDED BY THE FOUNDATION COMMUNITY.





NAMES: ANNA TAGUE AND DAUGHTERS, 13-YEAR-OLD KEELEY, LEFT, AND 11-YEAR-OLD MOLLEY. **FROM:** GREENFIELD. **WHY ARE YOU HERE?** ANNA: "WE ARE AT SCHENLEY PARK TO PARTICIPATE IN THE RACE FOR THE CURE FUND-RAISER FOR BREAST CANCER RESEARCH. THE VISITOR CENTER IS A WELCOME REST STOP AFTER THE RACE. THE RENOVATION IS SPECTACULAR AND THE ATMOSPHERE INSIDE IS SO PLEASANT. WE LIKE IT SO MUCH IT COULD BE A DESTINATION ALL ON ITS OWN."



city and state funding had been secured. The controversy lay in where to build. Sites above the Civic Arena and across the Smithfield Street Bridge both nosed into the lead before giving way to the current site along Penn Avenue at the bottom of the central business district, where the first convention center opened in 1981 to a collective yawn. Its exhibition halls were too small to woo conventions away from Detroit or Indianapolis. And until the 1986 opening of the Vista Hotel (later DoubleTree and now Westin), the building was nowhere near decent lodgings. By thinking small and keeping a lid on

While a small cadre of architects, urban planners and environmentalists were beginning to push for the concept of a public design competition, the form and funding didn't come until the Endowments' Teresa Heinz stepped up to offer her positive personal experience from helping to lead the 1993 design competition for the Botanical Gardens in Washington. The National Gardens, with some 750,000 tourists each year, is among the top tourist destinations in Washington. Teresa Heinz wanted to see a model project succeed in Pittsburgh and become the template for future building construction.

“WE DECIDED THAT THE SPECIALNESS OF PITTSBURGH WAS GOING TO BE A KEY TO THE FUTURE. WE HAD TO BE SURE THAT GOOD DESIGN WAS PART OF EVERY PLANNING PROCESS.”

Eloise Hirsh Former Director, City Planning, City of Pittsburgh

costs, the city had birthed a white elephant.

It wasn't the only time Pittsburgh violated principles of civic design. In the 1960s, for instance, disregarding urban villages and their community assets, the city dispatched bulldozers to obliterate a polyglot Black-Jewish-Italian-Arabic neighborhood in the lower Hill District in order to build the Civic Arena. Some mistakes vanish in their own time, like Three Rivers Stadium. Some are hidden by bric-a-brac and new façades, like an entranceway addition that clouds the crystal-palace splendor of Phipps Conservatory. And some buildings survive in locations where they never should have been built, like the 1995 Allegheny County Jail, stacked up on prime riverfront land overlooking the Monongahela.

Five years ago, as the planners and dreamers sat down to chart the possibilities for an expanded convention center, Richardson's Courthouse and Jail loomed as the historical marker of everything that could go right in the commissioning, design, construction and use of a public building. Richardson had, in 1883, been invited by Allegheny County to enter an architectural competition for Pittsburgh's grandest public commission ever. Awarding the job to a visionary out-of-towner was a bold move in 1883, and it was time now for a little déjà vu.

In spring 1998, the Endowments and several other regional foundations funded the competition with a \$750,000 grant. That action ensured that the city would be spared “architecture-lite” and would attract interest from world-renowned architects and urban planners.

But with the Endowments as one of the lead supporters, the process also was sure to embrace other civic design principles beyond a world-class design. National green-building certification was achieved by adding such environment- and people-friendly measures as an internal reclamation system for using waste water to nourish indoor plants; natural day lighting and super energy-efficient heating and cooling systems. Also, a public art program was created to commission works by regional and international artists.

And the full-court press into solidifying civic design in Pittsburgh has come none too soon. For one thing, standards for urban design are ratcheting up. The Bruner Foundation, based in Cambridge, Massachusetts, had started something in 1987 with the first of its biannual Rudy Bruner Awards for Urban Excellence, recognizing “those places that are developed with such vision and imagination that they transform urban problems into creative solutions.” The initial prize went to the

bustling downtown Pike Place Market in Seattle, and subsequent prizes have gone to the Cleveland Historic Warehouse District and Philadelphia's Parkside Preservation and its Village of Arts and Humanities. To keep up with the competition, a city could no longer put expediency before civic design. Recognizing that principle, the official proposal for the new convention center stated that "an average design standard" was not acceptable.

"We were asking [competing architects] for quite a few things," says Rebecca Flora, executive director of the Green Building Alliance. "We wanted to send a message that we were serious, and we were willing to pay to have them follow things through." Through a process of screenings and site visits, four firms were invited to produce schematics and preliminary designs. In November 1998, a seven-member jury — three Pittsburghers and four design professionals from outside the region — heard presentations from the finalists before selecting New York –based Rafael Viñoly Architects and its local partner Burt Hill Kosar Rittelmann Associates to build the convention center. Viñoly was an up-and-comer — his team was the runner-up this year in the competition for the World Trade Center site. His convention center design, with its undulating roof mimicking the curves of nearby bridges, was an instant hit with the jury.

Also serving on the jury was Steve Leeper, director of the Sports and Exhibition Authority, the government agency managing the project. "The foundations are being more proactive as they invest in more civic projects. They've set a standard that the city can look to that will not become obsolete," Leeper says. "As someone working on the government side, I know the foundations give us the natural support we need to justify the sorts of investments we're making. By having a third party to support us and to advocate for high-quality design, we've gained more flexibility."

Flora agrees. "Foundations are the folks who think long-term. They're in it for the long haul, and they're in a position to look at quality over quantity. Political leaders don't have the luxury of being able to wait 20 years to see a return."

Instead of asking how the convention center could be built quickly and cheaply, she says, "We were able to rally people around the design competition."

Flora sees signs that the convention center competition has had an effect on subsequent buildings going up in and around the city. She points to the recent design competition for the Children's Museum expansion. "A competition is something people are intrigued by," Flora says. "It doesn't seem as foreign or as intimidating as it might have been." There are signs, too, that the private sector is catching on to the need for through-and-through civic design. PNC Financial Services' Firstside Center and Alcoa's headquarters are two recent examples of buildings that follow civic design standards in siting, scale and respect for surroundings.

Eloise Hirsh, former director of City Planning under Mayor Tom Murphy, takes the long view of public building. "We have to remember that there have been periods of public investment and leadership and periods of public retreat. We'd look at a building and say 'God, that's ugly!' and 'How did that happen?'" she says.

"One thing that started to happen on our watch, when Mayor Murphy was first elected, was we started to pay attention to 'How did that happen?'" People from regulatory agencies told her that certain things had to be built in a certain way for reasons of safety and accessibility.

"We decided not to take that as an excuse. We decided that the specialness of Pittsburgh was going to be a key to the future. We had to be sure that good design was part of every planning process." Hirsh says the mayor has been committed to quality-of-place as a defining attribute, but also has been under intense pressure to achieve quick economic returns on public investments.

In 1998, the city's Downtown Plan emerged with design objectives that do not have the force of law, yet figure in the city's review of proposed developments. The objectives are quite specific. Public seating, trees and public art are all good. Mixed development — housing and retail, for example — is especially good. "Sympathetic infill" should be practiced, blending the new with the old.



The plan's design objectives help the three-way communication between an architect, a client and a developer, says Anne Swager, executive director of AIA Pittsburgh, the local American Institute of Architects chapter. "Going through a public body process starts to [establish] that these things are important for a community. It starts to get a discussion going of what a community expects."

A critical voice, often unheeded in the past, is that of the private developer. Caryn Rubinoff, vice president of The Rubinoff Co., has a seat on the Riverlife Task Force. On projects like the company's Alcoa Business Services Center on the North Shore, she says there was a "convergence" between the city's Downtown Plan and the architects' own vision for the building. "It didn't butt up against the city's design principles," Rubinoff says. The building respects the existing grid of streets, uses setbacks above the third floor and, at the mayor's insistence, provides for a riverfront trail and park land.

"For those of us with an interest in seeing the city thrive, as long as the guidelines are economically realistic, we can work with them," says Rubinoff. Still, she cautions, "It's great to put together green building guidelines, but to the extent that my tenants aren't going to pay for it, I'm not going to build it."

Two years ago, City Planning formed a Pittsburgh Design Review Committee — an advisory board of eight to 12 people

with seats filled by planners, architects, historic preservationists, contractors and community organizers, among others. The committee now meets every other week, often to hear developers explain their proposals. Officially, the goal is to advise City Planning and its director, Susan Golomb. Unofficially, the meetings — which are not open to the public — are a place to air civic design principles and questions like "Why?" and "Why not?" and "What if?"

"The mayor wanted to see improvement in the quality of design... but not by adding extra layers of bureaucracy to the system," says Golomb. "Architects and developers who have brought projects to us seem to be pleased, so there is an effective system in place."

As would be expected, sparks can fly. "There continue to be tensions," says Anne-Marie Lubenau, executive director of the Community Design Center, who sits on the committee. "Where there is interest in economic development, there is impatience that it has to be big, or it has to happen quickly." In her view, however, developers have been "very accepting" of the process and the suggestions that arise, even though it adds another layer of review.

As Navarro explains it, economic development is generally driven by economic principles, "... but because the economics of good design are not as well proven as the financial details,



NAMES: FROM LEFT, BILL SZUSTAK, PROJECT DESIGNER, SPRINGBOARD ARCHITECTURE COMMUNICATION DESIGN; PAUL ROSENBLATT, AIA, PRINCIPAL; YOUNG-JOON MIKI, INTERN ARCHITECT. **FROM:** SPRINGBOARD'S NEW OFFICE SPACE IN THE TERMINAL BUILDING, A RESCUED WAREHOUSE DATING BACK TO EARLY MANUFACTURING, ON THE SOUTH SIDE. **WHY ARE YOU HERE?** ROSENBLATT: "AS ARCHITECTS, WE ARE COMMITTED TO THE URBAN ENVIRONMENT AND ARE DEEPLY INVOLVED IN MANY RE-USE PROJECTS. WE FELL IN LOVE WITH THE HIGH CEILINGS, THE LARGE WINDOWS THAT PROVIDE ABUNDANT NATURAL LIGHT AND THE HISTORIC CHARACTER OF THIS SPACE. THE COOL SPACE LOCATOR INTRODUCED US TO THE TERMINAL BUILDING, AND IT IS A PERFECT MATCH."

you don't have people sitting at the table saying "What about the façade?" If that doesn't happen, you're going to wind up with the same old thing."

One example of some new open-mindedness on civic design is the six-year-old Pittsburgh Parks Conservancy, which has worked on renovations of the Frick Park entrance in Point Breeze, the Schenley Park Visitors' Center and the Highland Park entrance.

"The collaborations are very important," says Conservancy President Meg Cheever, "and we are so blessed to have the foundation community we have. They're — how can I say this? — non-risk-averse. They're almost daring. The Parks Conservancy is so young and yet the foundations have invested in us. We could never have done this otherwise."

In the spirit of civic design, the Endowments is also supporting projects like the Cool Space Locator, whose staff works for start-up companies trying to find abandoned space in city neighborhoods. Another project is the Downtown

Living Initiative, whose projects include "Vacant Upper Floors," a program modeled on a Philadelphia project to turn underutilized commercial space into residences. "Without being a developer or a financier, there are things we can do," says Patty Burk, the Initiative's executive director.

The final verdict on civic design in Pittsburgh will be delivered by residents of the region. The real test of a design lies in its effects on everyday life, and that's an important element in Navarro's vision for civic design. As the discussion turns to North Shore Park, a project supported by most of the regional foundations, she lights up with another vision filled with civic design principles:

"If you go out on a beautiful day like this and there are crowds at the river park and kids splashing on the steps and people on bikes — that's a day to remember. The space becomes a part of people's lives, and that's the part of civic design that you can see and reach out and touch and know it is successful." *b*



What could have been: A planned renovation of the 43-year-old Fort Pitt Bridge and Tunnel called for lining sides of the roadway with a concrete behemoth tagged by engineers as the “F” Shape Barrier, but known to the world as the clunky Jersey Barrier. While the bridge’s original railing was 41 inches high — a low concrete base with two curving steel rails — the Jersey was a 42-inch wall of solid concrete. Even motorists in convertibles would have been robbed of Pittsburgh’s signature view of skyline, fabled Point State Park and the Monongahela River.

42"

POINT OF VIEW

One of Pittsburgh's most precious assets was nearly sealed off behind a concrete wall. Here's the story of how it was saved.


By C. M. Schmidlapp and Douglas Root



What it will be: Beginning with a Civic Design summit and continuing with a year-long development process, civic leaders, transportation officials, politicians, civil engineers and computer designers shaped a new guardrail to save one of the city's most distinctive assets. The Pennsylvania Barrier consists of only a 24-inch concrete base with 26 inches of double-rail square tubes. It is being installed on the upper deck of the Fort Pitt Bridge.

24"





A typical press conference crowd assembled for what was expected to be a typical Pennsylvania Department of Transportation briefing. There were the just-the-maps-Ma'am transportation reporters. There were several TV reporters and their camera crews taking turns checking their watches and barking into cell phones about the next assignment. There were the transportation engineers and some of the suits from the main office in Harrisburg.

But then there were some unusual invited guests — local public officials, some foundation types, staff from civic groups and several academics from Carnegie Mellon University — which helped explain the unprecedented highbrow meeting place, Pittsburgh's Byham Theater.

That setting made even more sense when it became clear that what was about to transpire was less press briefing than showmanship. State Department of Transportation (PennDOT) Spokesman Dick Skrinjar was relishing his role as executive producer of a program that served updates on road projects in western Pennsylvania by way of a computer-generated trip through Pittsburgh detours. The presentation was backed up by a recorded soundtrack of such

transportation-themed golden oldies as “Downtown,” “Do You Know the Way to San José?” and “Route 66.”

But all the computer glitz and music was the warm-up act. Just as reporters were starting to edge toward the lobby, Skrinjar nodded to usher in the main act. Two hard-hatted assistants were dispatched off-stage and returned a moment later hauling a plywood and plastic model of what appeared to be a guard-rail. Yes, indeed, Pennsylvania's new highway safety barrier was debuting on center stage.

Officials were beaming with pride. Reporters looked at one another in befuddlement until Skrinjar offered some desperately needed context to explain why a chunk of bridge safety rail was posing seductively for the cameras at the Byham.

Before a community design process developed the Pennsylvania Barrier, shown below, for the double-decked Fort Pitt Bridge and saved one of the city's most dramatic views, Pennsylvania Department of Transportation engineers had offered a compromise. Responding to complaints about using "F" Shape Jersey Barriers, which were little more than concrete slabs, they proposed using the Texas HT Barrier, anchored by a 32-inch concrete base and an 18-inch barrier with one single rail. But a community group pushed beyond that by coming up with a new design. The compromise of the compromise: the Pennsylvania will be used on the bridge's upper deck while the Texas will be used on the lower level.

The new safety barrier is the culmination of the Pennsylvania Barrier Project, an unlikely collaboration of engineers, bureaucrats, architects and civic boosters who came together to save the world-renowned, dramatic view of Pittsburgh's downtown skyline and rivers at the busiest portal into the city, the Fort Pitt Bridge and Tunnels. So eye-popping

is the view that even film director Steven Spielberg was wowed by the experience on his first visit to the city for a charity event. When asked if he would consider making a film in Pittsburgh, he responded, "I probably should. I could save a lot of money on special effects. All I need is a car and a camera to catch that incredible view coming out of the tunnel."

But beyond the film budgeting calculations of a Hollywood megastar director, civic leaders, public officials, corporate executives and tourism experts have done their own assessment of the aesthetic and economic value around one of the city's signature views. In most quarters, the answer rings up the same: priceless. "First, there are dramatic vistas around these rivers and hills," an editorial lauding the new barrier in the city's largest daily newspaper, the *Pittsburgh Post-Gazette*, began. "Second, there are plenty of people here willing to fight to preserve them."

A planned renovation of the Fort Pitt Bridge and Tunnels threatened to nearly eliminate its view by replacing the existing see-through railings with a taller band of solid concrete, literally walling off Pittsburgh's rivers and shoreline from the picture. Funded by a \$113,000 grant from The Heinz Endowments, the local chapter of the AIA oversaw a design process that created an attractive barrier that still was able to meet state safety



THE IMPORTANCE OF THE POLITICAL PROCESS WAS THAT WE NEEDED TO GET IT UP TO A HIGH ENOUGH LEVEL THAT THE TOP PEOPLE WOULD ASSURE THE ENGINEERS THAT THEY WEREN'T OUT THERE ALONE—THAT SAFETY WOULDN'T BE SACRIFICED JUST TO PRESERVE A VIEW. IN THE PROCESS OF SHOWING THAT WE COULD RESPECT THEIR RESPONSIBILITY, IT HELPED BUILD TRUST THAT LED TO A QUICKER SOLUTION.”

Anne Swager Executive Director, Pittsburgh chapter of the American Institute of Architects

standards. Though designed specifically to line the inbound lanes of the Fort Pitt Bridge, the Pennsylvania Barrier is likely to reach nationwide fame by rescuing other scenic views jeopardized by rehabilitation projects. It affirms the public's desire for good design — not just in showy architecture but in solid infrastructure like highways — preserving, in this case, not just the safety of motorists, but the soul of a city as represented in a panoramic view.

Pittsburgh's Riverlife Task Force, a 42-member group of rivers-connected community leaders — ranging widely from the owner of the Pittsburgh Steelers to private developers — became the congress that fomented the revolution in the state's bridge barrier design. Riverlife, created by Pittsburgh Mayor Tom Murphy with funding from The Heinz Endowments in 1999 to promote high development standards and ensure preservation of Pittsburgh's riverfronts, was primed for just this sort of high-level public and political campaign.

In the winter of 2000, a subcommittee of the task force was meeting to discuss a proposed park along the Monongahela River when members first saw the safety barrier set for installation on the Fort Pitt Bridge. PennDOT Engineers, preparing for a renovation of the bridge scheduled to begin in 2002, had designed the bridge guardrail according to the latest safety regulations: the bridge's original 41-inch-tall railing — a low

concrete base with two curving steel rails — was to be replaced by a 42-inch-high, solid concrete slab known as the “F” Shape Jersey Barrier. Committee members went to red alert.

The project was in the final stage of design, and PennDOT engineers considered the project schedule and its budget inviolate. “Who put these people in charge?” grumbled Ray Hack, the department's district engineer, when he first heard that Riverlife staff urged a redesign of the barrier. Later, under calmer conditions, he agreed to walk the bridge with Riverlife staff and eventually proposed replacing the Jersey with the Texas HT, the only alternative that combined an open railing with the required greater height and thickness. Though open at the top, the concrete base of the Texas railing was still 10 inches taller than the bridge's existing rail. Davitt Woodwell, then Riverlife's executive director, said it wasn't good enough for what a *New York Times* travel writer once described as “Pittsburgh's front door.”

Woodwell hired transportation expert Ted McConnell, who tracked down barriers across the country, identified by state of origin like contestants in a surreal beauty pageant: the Wyoming, the Colorado, so many strength levels, so many variations on design. The Massachusetts was known by engineers as a fierce competitor of the Texas. With a name that advertised its designer look, Massachusetts' “Picket Fence”

THE BARRIER BREAKERS

Some of the community leaders who made it happen: **Great Civic Design can't occur without widespread community involvement and a commitment on the part of stakeholder leaders to engage in a public process that solves development problems.**

Elsie Hillman
Civic Leader



Eloise Hirsh
Coordinator
Pennsylvania Barrier
Task Force



Maxwell King
President
The Heinz Endowments



Brad Mallory
Former Secretary
PennDOT



Sara Moore
Principal
Burt Hill Kosar Rittelmann
Associates



Tom Murphy
Mayor
City of Pittsburgh



Mary Navarro
Program Officer
The Heinz Endowments



Lou Ruzzi
District Bridge Engineer
PennDOT



Mike Ryan
Deputy Secretary for
Highway Administration
(Retired)



Sunil Saigal
Professor
Department of Civil
and Environmental
Engineering
Carnegie Mellon University



Lisa Schroeder
Executive Director
Riverlife Task Force



Anne Swager
Executive Director
AIA Pittsburgh



was the aesthetic favorite, but only the Texas satisfied PennDOT's stringent safety regulations. State highway standards require railings guarding spans like the Fort Pitt Bridge to have a strength rating of Testing Level 5. The more demanding levels were enacted in 1996 to respond to the increased size of SUVs, along with rising litigation costs from accidents. The ratings are now beginning to affect the many upcoming renovations of aging bridges and highways across the country.

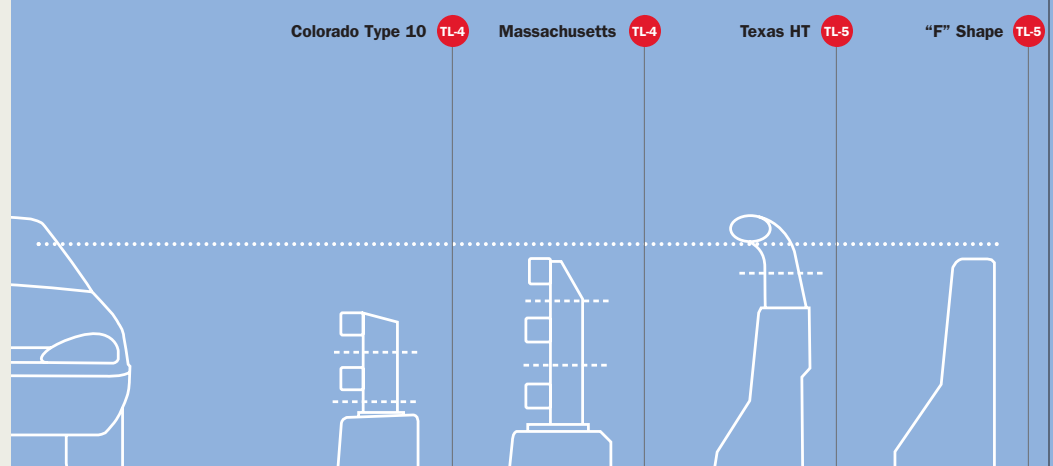
PennDOT's hard-hatted safety engineers had a reputation for reacting sourly to outside petitions for design changes, especially when it was perceived as political pressure. "A lot of the resistance comes from the feeling that they are being asked to compromise on safety," says Anne Swager, executive director of the Pittsburgh chapter of the American Institute of Architects. "The importance of the political process was that we needed to get it up to a high enough level that the top people would assure the engineers that they weren't out there alone — that safety wouldn't be sacrificed just to preserve a view. In the process of showing that we could respect their responsibility, it helped build trust that led to a quicker solution."

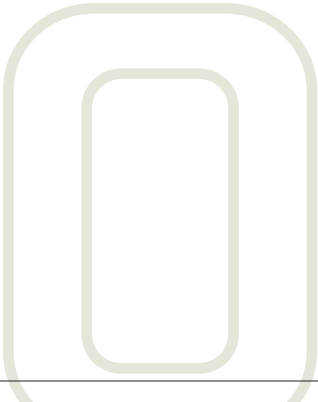
But the climb to that level of political insurance was hard going. Already, department officials had ignored personal pleas from Pittsburgh Mayor Tom Murphy, Allegheny County Chief Executive Jim Roddey and prominent civic leaders. A letter to Pennsylvania's then-transportation secretary, Brad Mallory, urged the use of a view-saving barrier and was signed by the region's most prominent officials. Though it made a persuasive case for preserving the view, it brought a familiar bureaucratic response: the secretary politely lamented the loss of a scenic view but there was neither time nor money for redesign. PennDOT was beginning to take on the dimensions of a Goliath and it was up to Riverlife to find, well, not a David, but a bigger Goliath.

In dealings with a Republican governor's administration, the obvious choice was philanthropist and National Republican Committeewoman Elsie Hillman, a member of Riverlife, a dear friend of the elder Bushes and of their son, the president, and, coincidentally, a mentor to George W. Bush's good friend, Tom Ridge, then the governor of Pennsylvania and now the nation's first secretary of homeland security. Hillman phoned Ridge, and, by the end of the conversation, he had agreed to fly to Pittsburgh. Joining Hillman and Ridge at the

THE COMPETITION: UP TO THE TEST?

State highway standards required the railing of the Fort Pitt Bridge to have a Testing Level rating of TL-5, one of the industry's strongest. The ratings, established in the last decade to respond to increased size of SUVs along with rising litigation costs from accidents, will affect upcoming renovations of aging bridges and highways across the country.





ONCE THE POLITICAL DYNAMICS WERE SETTLED AND IT WAS CLEAR WE WERE GOING TO HAVE TO FIND A SOLUTION, IT WAS EASIER TO ACCEPT DIFFERENT PERSPECTIVES. THE PARTNERSHIP AND GOODWILL WITH STATE ENGINEERS THAT HAS RESULTED FROM THIS IS AS VALUABLE AS THE VIEW FROM THE BRIDGE.”

Lisa Schroeder Executive Director, Riverlife Task Force

meeting were Endowments President Maxwell King, who also was serving as co-chair of Riverlife, Transportation Secretary Mallory, District Engineer Hack and Riverlife Executive Director Woodwell. The 20 minutes allotted on Ridge’s schedule ballooned to nearly two hours. “The governor asked a thousand questions. He wanted to understand everything,” says King. At the end of the session, Ridge authorized Mallory to revisit the barrier design. King offered Endowments financial support for the design process, and the Pennsylvania Barrier Task Force was born.

The Institute of Architects chapter moved quickly to organize public- and private-sector advisory groups. Various barrier designs were proposed and debated in a charette process that gloried in the intricate details of guardrail construction. Transportation experts were consulted; federal standards governing rail width and horizontal spacing were the subject of breathless lunch meeting discussions. Riverlife members even went into the lion’s den, the Federal Highway Administration offices in Washington, to clarify safety regulations and determine acceptable design modifications.

“It wasn’t anything anyone imagined we’d be funding,” says the Endowments’ Mary Navarro, breaking into a smile. As an officer in the Arts & Culture Program and manager of the foundation’s Civic Design Initiative, (see cover story, “Unconventional By Design,” p. 12). King thought her a natural choice for guiding the barrier redesign. “We had our

work cut out for us on this one,” says Navarro, “especially in bringing together so many stakeholders who seemed so fixed in their positions.” Even the name, “Barrier Task Force,” she says, conveyed difficulty and acrimony. King believes some of the Endowments’ greatest project successes have come from posing a provocative question: “Wouldn’t it be exciting to do something foundations never do? ”

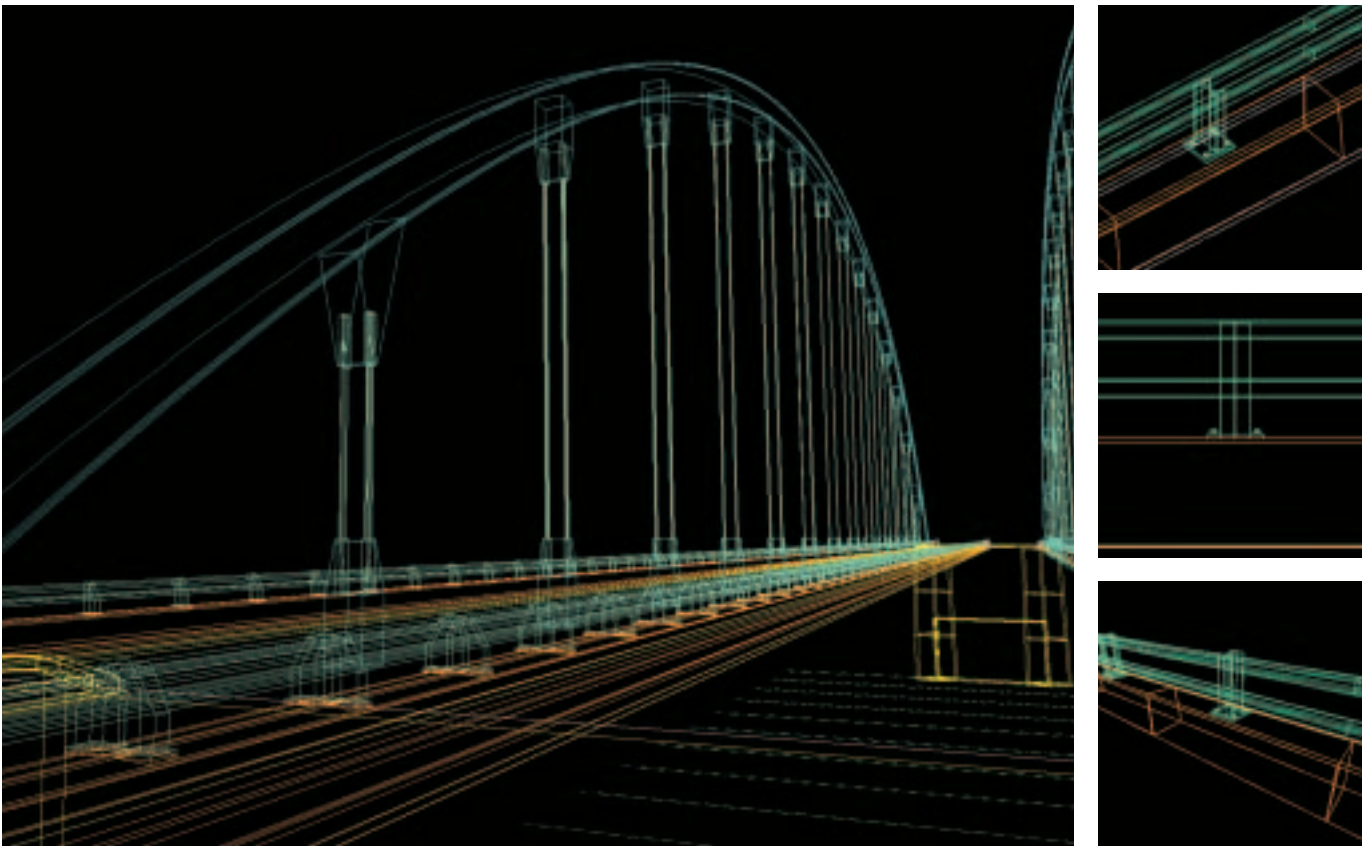
But several stakeholders dealing with the Endowments on the barrier redesign say the project is, in fact, tied directly to the foundation’s strategy in promoting civic design and sustainable development principles in all its work in the region.

Eloise Hirsh, the much-admired head of city planning for two of Mayor Murphy’s three terms, managed the barrier redesign process for the Institute of Architects chapter. She sees the Endowments’ civic design focus on projects like barrier construction as a more formal, programmatic manifestation of the Heinz family’s involvement in civic improvement and wise development in Pittsburgh through four generations. The current bearer of the family legacy is Teresa Heinz, who, says King, “is even more deliberative, much more concerned with careful research in her work” in such areas as environmental protection, green building and public accessibility to art.

“It’s not enough for advocates to simply beat their chests,” Hirsh says. “You need . . . technical expertise to negotiate.”

For the Barrier Task Force, technical expertise came from Sunil Saigal, a civil engineer and concrete specialist then at

Wire-frame models of the Fort Pitt Bridge featuring views provided by previous barrier and the new design produced by local architects, designers and Carnegie-Mellon University faculty.



Carnegie Mellon, and Fred Gottemueller, a consulting engineer who had dealt with similar issues in Baltimore. Saigal's work, in particular, enabled the task force to substitute sophisticated computer modeling for crash testing of the new barrier, saving precious time as well as money. "We didn't know if we were going to have to crash semis into it," says King, referring to the usual but expensive way of testing new highway safety components.

While design-oriented types on the Barrier Task Force plunged willingly into the ocean of highway regulations and statistics, engineers opened up to such concepts as "panoramic views" and urban planning discussions that bordered on art appreciation. "Once the political dynamics were settled and it was clear we were going to have to find a solution, it was easier to accept different perspectives," says Lisa Schroeder, who has

since succeeded Woodwell as Riverlife's executive director. "The partnership and goodwill with state engineers that has resulted from this is as valuable as the view from the bridge."

PennDOT engineer and Barrier Task Force member Lou Ruzzi is less bubbly about the bonding, but acknowledges that "all the parties [had] a pent-up desire to, well, cooperate." What Heinz's Navarro sees, in retrospect, is "a change of attitude in Pittsburgh about the ability of the public and private to work together."

Installation of "the Pennsylvania" on the Fort Pitt Bridge's upper deck is expected to be completed this fall. And while it is less curvaceous than its predecessor, it can boast a practical, slim profile that allows for two extra inches of roadway. At the end of the hat-trading and compromising between engineers and civic leaders, Pittsburgh may well have set a new standard in the national barrier beauty pageant.

But such rarefied beauty didn't come free. The *Pittsburgh Tribune-Review* ran a top-of-the-fold, front-page article reporting that saving the Fort Pitt view would cost the state an additional \$382,000. This overstated the case, as \$113,000 of that, the cost of the barrier's design, was paid by the Endowments. Still, there were extra public costs associated with switching to the new design so late in the construction process.

The Endowments' King says those costs were weighed against "the loss of something potentially invaluable to the region. And when you factor in the long-term effects on tourism and the city's image around its bridges, I think it just stops being a factor in the decision-making for leaders who understand what's at stake." Steve Quick, a member of the Institute of Architects and of the Riverlife Task Force, argues that if PennDOT had gone ahead with the Jersey Barrier and turned the Fort Pitt Bridge into a concrete funnel with no view of the North Shore attractions and the rivers, "the public outcry would have been tremendous and the state would have had huge costs to change it."

Also, the investments made to produce the Pennsylvania Barrier will bring returns beyond saving the view from one bridge. In renovations to the 16th and 30th Street Bridges,

the 10th Street Bypass and McArdle Roadway, which commands another five-star view as it snakes up Mt. Washington, engineers on each of these projects plan to consider the different character of each area in replacing railings. Mallory cites the barrier-creation process in Pittsburgh as having speeded PennDOT's coming around to the larger movement of Context-Sensitive Design.

But the Pennsylvania Barrier also is having impact beyond the state. Fresh from winning an American Institute of Architects national award in the Government Affairs category for best single initiative or program, the barrier's view-saving charms are now being considered for use in dozens of other states.

Urban planner Hirsh sees not only the barrier mushrooming nationally, but the collaborative process as well. "There's a sense of anticipation, an awareness of the importance of public realm considerations," she says. The Institute of Architects' Swager hopes that the definition of good transportation policy has now been permanently expanded beyond basic safety, maintenance and vehicle movement issues. "It also needs to be about place, views, urban design and even sprawl. Let's take off the blinders." *b*

COLORING OUTSIDE THE LINES

In "Designing the Future," a six-page white paper that emerged from a Heinz Endowments staff retreat in early 2000, Teresa Heinz dared planners to "color outside the lines," like children who are "much more attuned to the dynamics of the real world than their line-revering parents." The Civic design process would provide an opportunity to create a unique environment that is "uplifting, kind, beautiful, healthy and affirming," in the words of the white paper. It set seven goals of good civic design, starting with the creation of distinctive and memorable locales and the fostering of "a sense of place, a positive community self-image and an awareness of shared destiny." To achieve those goals, the white paper went on to urge designers to:

- Preserve and build upon a community's distinct assets
- Understand context
- Deal with wholes
- Emphasize the human scale
- Appreciate the differences among and the relationships between the urban, suburban and rural environments
- Value open space, gathering places and centers of public focus, and integrate them into the community
- Protect and restore the natural environment
- Provide alternatives to movement by automobile
- Ensure civic engagement

here&there

Endowments Hires Evaluation Officer

Stephanie Wilson, an evaluation, research and management executive who has worked with organizations across the country and abroad to improve their effectiveness in reaching goals, has joined the Endowments as part of a strengthening of the foundation's program evaluation and public accountability efforts.

Wilson, who previously worked in Bethesda, Md., as a group vice president for international economic development at Abt

Associates, one of the country's largest research and consulting firms, specialized in transferring successful U.S. evaluation methodologies to other countries. At the Endowments, Wilson will be responsible for evaluating entire program strategies and developing systems for measuring progress toward goals.

"Hiring someone with Stephanie's experience sets a new standard in our work around evaluation and accountability," says Endowments Associate Director Grant Oliphant. "As a foundation, we are placing a high premium on understanding and increasing our effectiveness, and Stephanie has the perfect credentials to help us do that. It's an added bonus that she is a Pittsburgh native and cares very deeply about this community."

Wilson, who started at the Endowments in April, was born and raised in East Liberty. "I'm delighted to be back in Pittsburgh," says Wilson. "After a career in business, I see this as an opportunity to serve the community that gave me my start and to give something back."



ENVIRONMENT INTERNSHIP FUNDED TO HONOR ENDOWMENTS DIRECTOR, WIFE

An undergraduate student internship at one of the region's most important nature preserves, funded by the Endowments to honor one of its longest-serving board members and his late wife, has received additional funding from the Cleveland H. Dodge Foundation of New York.

The William H. and Ingrid S. Rea Student Internship in Applied Ecology at the Powdermill Nature Reserve near Rector, Westmoreland County, was created in 2001 through a donation from friends honoring the couple on their 65th wedding anniversary. At its spring meeting last year, the Endowments approved a \$50,000 grant to further fund the program. This spring, the Dodge Foundation, in recognition of the Reas and family members who sit on its board, awarded another \$50,000 grant to fully endow the internship.

Rea and his wife, Ingrid, who died of cancer in April, raised sheep and Black Angus cattle on a farm bordering the sprawling reserve. Both were active in ecological projects there and were tireless advocates for the environment in leadership positions. William Rea was appointed to the Howard Heinz Endowment Board in 1977.

"The grant from our board and the funding from the Dodge Foundation will ensure that a long line of students will have not just a superior education on ecological systems, but also a degree of passion that approaches what Bill and Ingrid Rea had for their work in environmental preservation," says Endowments President Maxwell King. "This is a living tribute to the Reas but it also furthers the goals of the Endowments' environment protection work and the Dodge Foundation's efforts in education."

Named for the former chairman of the Phelps Dodge Corporation, which had mining and other business interests, the Dodge Foundation is a family philanthropic organization based in Riverdale with a focus on the environment. Cleveland Dodge was William Rea's maternal grandfather, and the foundation's trustees include Dodge's other grandchildren and great-grandchildren. One current trustee is Bill and Ingrid Rea's daughter, Ingrid "Ingie" (Rea) Warren.

The 2,200-acre reserve was founded in 1956 as the research and education field station of the Carnegie Museum of Natural History. Research and education programs at Powdermill are connected to universities in western Pennsylvania, eastern Ohio and northern West Virginia. Faculty and students at these schools use the reserve to do applied research. The internships are key to efforts at Powdermill and the Carnegie to increase the numbers of scientists and educators in applied ecology careers.



Photo courtesy of Carnegie Museum of Natural History

Pittsburgh Dentist, Civic Leader Joins Endowments

Dr. Judith Davenport, a Pittsburgh dentist who has served as a trustee and advisor to some of the region’s most important artistic and cultural institutions, has joined the Howard Heinz Endowment Board.

Dr. Davenport also serves on the board of Alvin Ailey Dance Theater Foundation in New York City. In Pittsburgh, she is board chairman of Carlow College and a trustee of The Andy Warhol Museum, The Birmingham Foundation, The Carnegie Museums, Pittsburgh Center for the Arts and Pittsburgh Public Theater.

In addition to running a private general dentistry practice for 21 years, she was a dental consultant for Blue Shield of Pennsylvania and served on the Dental Review



Commission for Highmark Blue Cross Blue Shield Corp. She is a member of the board of Sheridan Broadcasting Corporation, a Pittsburgh-based

business founded by her husband, Ronald, who is its chairman and CEO.

“Judy is an old friend of my late husband’s and mine. She is brilliant at looking beneath the surface of issues and getting to what really matters. She has a very quick, very inquisitive mind, and she is passionate about the arts, education and the future of Pittsburgh. She will be a great addition to our board as we continue looking for ways to increase

the impact of our philanthropic dollars in this diverse community,” Howard Heinz Endowment Chairman Teresa Heinz said in announcing the appointment.

Through the years of her professional career and in community service, Dr. Davenport has received numerous honors, including Distinguished Alumna from The Pennsylvania State University and a Professional Women of the Year award from the Pittsburgh Chapter of the National Association of Negro Business and Professional Women’s Clubs.

A graduate of The Pennsylvania State University, Dr. Davenport received a Doctor of Dental Medicine and a Masters of Public Health from the University of Pittsburgh. She and her husband are the parents of three children and live in Pittsburgh’s Squirrel Hill neighborhood.

ASSET DEVELOPMENT INITIATIVE CREATED

A \$120,000 Endowments grant to the YWCA of Greater Pittsburgh has allowed the organization to begin a program that provides expert financial coaching for low-income women, many of whom are heads of households with children.

The Asset Development Initiative has been created to assist women, many from minority groups historically denied the same wealth-generating opportunities afforded middle- and upper-class women. The program’s goal is to establish a personal financial base and build bankable assets that improve their family’s quality of life. The counseling areas are focused on helping women achieve homeownership, complete post-secondary

education or develop entrepreneurial skills to succeed in small businesses.

“This grant allows us to offer new paths to employment and economic self-sufficiency for so many women who otherwise would be floundering,” says Cecilia Griffin Golden, the YWCA’s CEO. “The Asset Development Initiative is essential in this community because so much of the harmful effects of racism affecting women and girls has to do with economic disadvantage and financial illiteracy.”

In addition to helping women meet key financial milestones, the initiative also supports families in becoming “banked,” a social services term that refers to establishing a financial base through accounts that allow for better tracking of household income and

expenditures. Setting a financial baseline allows initiative staff to coach women on budgeting, planning for emergencies and investing.

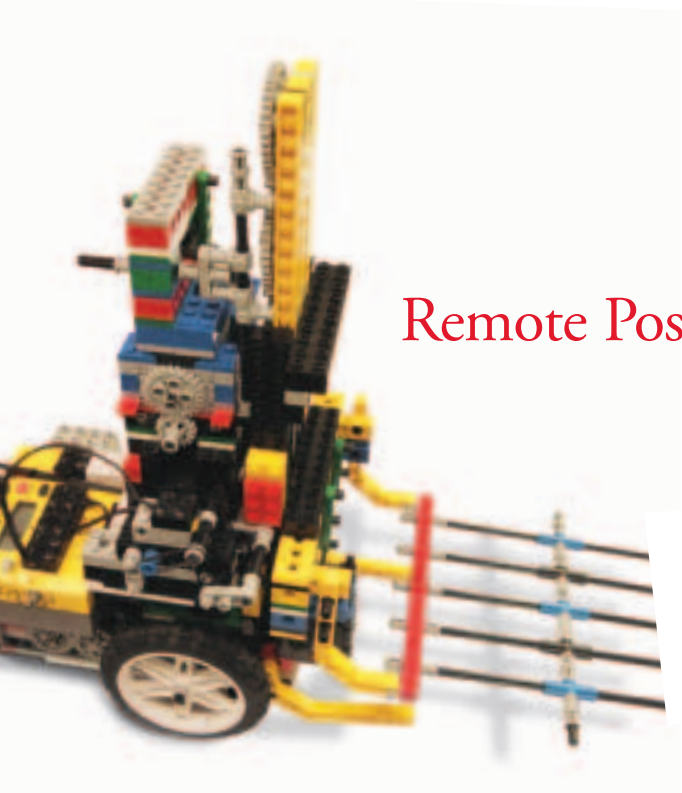
Asset Development is one of a series of programs being funded through the Children, Youth & Families Program to improve financial literacy for low-income residents in southwestern Pennsylvania. This also supports one of the foundation’s key goals that involves grantmaking and management support from the other four program areas to promote diversity and inclusion, especially in areas that improve quality of life for African Americans in the region.

THE HEINZ ENDOWMENTS

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Remote Possibilities. PAGE 4